

Woodworking

CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

Arts & crafts side chair

PROJECTS

Shelves

Pergola

Jewellery box

Door shutters

Make a froe handle

Windsor chair Part II

Bean to heart novelty

Scrollsawn tiger portrait

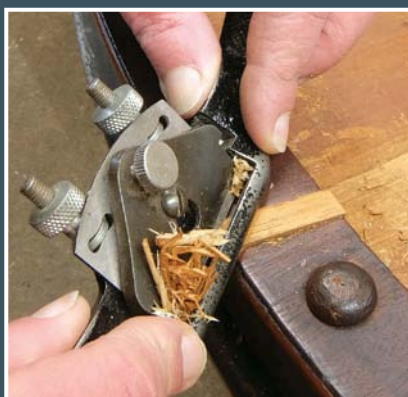
FEATURES

Plantation trees
Woodland Ways

QUICK KEY RACK



TABLE RESTORATION



FREEHAND ROUTING





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69



52



73

In the March issue...

COMMUNITY

- 5 Inspiration – side chairs
- 14 News & events
- 16 Book reviews
- 38 Kit & Tools
- 42 Wild versus plantation timber
- 62 Hints, Tips & Jigs
- 70 Woodland ways – ‘That old chestnut’
- 78 Q&A – expert advice
- 88 Next issue

POWER WOODWORKING

- 6 Arts and crafts side chair
- 26 Scrollsaw tiger portrait
- 36 Plans for you – pergola
- 46 Jewellery box
- 52 Freehand routing
- 58 Woodworking geometry – roof trusses
- 66 Back door shutters
- 73 Shelves
- 80 Bean-to-heart

HAND WOODWORKING

- 13 Insight – timber storage
- 30 Making a Windsor chair – part 2
- 55 Froe handle making
- 69 Key rack

RECYCLING & RESTORATION

- 19 Rosewood breakfast table

Woodwork on the web

To find more great projects, tests and techniques like these, visit our fantastic website at: www.woodworkersinstitute.com



COVER IMAGE: Arts & Crafts side chair from *Tables & Chairs* by Taunton Press.
PHOTOGRAPH BY THOMAS MCKENNA



Welcome

to the March issue
of *Woodworking Crafts*

Never In 'A Bind'

Hello Everyone and welcome to the March issue of *Woodworking Crafts*. To me as Editor it seems like only yesterday that we were about to launch the magazine and here we are, 11 issues later and going strong. I suspect I am not alone in not being very organised about storing my own magazines, so they tend to be found in various places around the house and if I'm not careful they get chucked before I get a chance to say 'yes' or 'no'!

Well, as this is quite a new magazine I've been a good boy and carefully put a complete set in a *Woodworking Crafts* binder. It takes up less space and is nice and tidy. At the office we have binders sets of all our magazines as standard, but I find it really useful to be able to refer to them quickly here in the GMC Workshop, especially when readers contact me with queries or comments. It's a good habit to get into if you are a new subscriber. We normally have a binder offer in the magazine so get organised now, you won't regret it!

Being March, of course, it is workshop tidy-up time at home. The workshop currently has the tools and works-in-progress of no fewer than four people – it was meant to be a one person workshop – i.e. me! So, the very next 'good weather' weekend there is absolutely no excuse, I'm going in for the big cleanup – wish me luck...

Anthony Bailey, Editor

Email: anthonyb@thegmcgroup.com



6



55



19



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Traditional chairs feature a centre back board or 'splat', but this design has an unusual roundel feature instead



Right: This cross back design looks good but still gives essential back support



The grid back and slender leg profile gives a nod to the Gimson Arts & Crafts style

Design Inspiration

Chairs are an essential part of our lives but as well as being functional they can also make an important statement about the quality of construction and design.



The curved back presents challenges, it has lower side rails for extra frame strength



A 'friendlier' style of chair design with deliberate graining to soften the shape



A traditional Queen Anne style with plenty of shaping to back and front legs, with a pierced back splat

Arts and crafts side chair

An extract taken from *Fine Woodworking Tables and Chairs*

I designed this chair in 1993 for a design competition sponsored by the Maine Arts Commission. My intention was to design a chair that would be sturdy, comfortable, and clearly derivative of Arts and Crafts styling but still compatible with contemporary interiors. Since then I have made many of these chairs with very little design change, including one set ordered by Disney Films in 1999 for the movie *Bicentennial Man*. This version is made of white oak (*Quercus alba*), though I've made the same chair in cherry (*Prunus avium*) and walnut (*Juglans nigra*).

Because I wanted the chair to function either as a dining chair for long, leisurely meals or as a reading chair for a desk or library table, an upholstered seat was a must. The degree of back slope, depth of seat area, arch or curvature of the back rest, and other critical dimensions also contribute to the comfort. I use jigs to duplicate curved and angled part as well as to create accurate angled joinery. These jigs will come in handy if you decide to build a set of chairs.



Shape the back legs using a template

First, trace the back legs on the stock using a full-size template made from 1/4-in.-thick Masonite. Rough-cut the legs to shape using a jigsaw or bandsaw, being careful to leave the line. The only cuts that should be exactly to the line at this point are the top and bottom cross-grain cuts.

For final shaping, mount the back legs in a template-routing jig that works with both legs. Use a large-

diameter, bearing-guided straight bit (1/2 in. or more). Amana® makes a 1 1/8-in.-dia. by 1 1/2-in.-long bit with a top-mounted ball-bearing guide (part No. 45468) that allows you to shape the leg in one pass.

Once you have both rear legs shaped, cut the front legs to length. Now you're ready to lay out and cut the mortises.

Angled mortises made easy

It is certainly easier to cut right-angled, 90° mortises and tenons. But to

conform to the body, the chair must have some angled joinery. I've limited the angled joints to the side rails and the lower side stretchers.

The easiest and most consistent way to cut the angled joint is to bore the mortise in the leg at the required angle. Then you can simply crosscut the ends of the adjoining rails at the same angle, cut a straight mortise into the end grain of the rails, and glue in a slip tenon.

The angled mortises in the front and



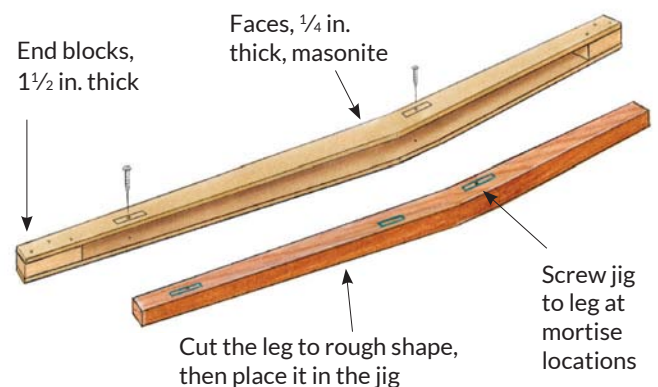
Clamp the jig to a bench to rout the leg shape. A long bearing-guided bit can do the job in one pass...



... a shorter bit requires you to flip the jig and make two passes

Two-sided jig for routing back legs

Each leg is secured in the jig by screwing into the areas to be mortised, so mark out mortise locations on both faces.



Wedge leg in box for mortising. Adhesive-backed sandpaper prevents the wedges from slipping.



Angle block orients the leg at 85.5°. Set the block against one side of the leg before adding the wedges.



Then cut the mortise with a plunge router.

rear legs can be cut using a plunge router and a router mortising box. You can use the mortising box, a mortiser, or chisels to cut the straight mortises.

Now add the decorative details on the rear legs. Taper the outside faces on the bandsaw and plane to the line. Cut the shallow pyramid heads on both the front and rear legs. Finally, cut the mortises for the square pegs in the crest rail.

Side rails meet the legs at an angle

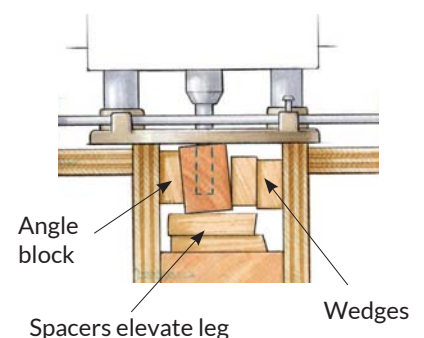
With the legs complete, begin working on the seat rails – front, back, and side.

The rail-and-seat structure takes the brunt of the load, so use care when fitting the tenons.

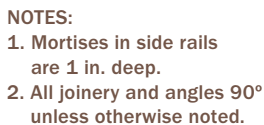
The front and back rails meet the legs at 90° and have standard tenons. The side rails, which are angled into the front and back legs, are attached with slip tenons.

Cut the side rails to length at 85.5° at the shoulder line. The rail should look like a long, thin parallelogram, not a trapezoid. Next, lay out and cut the mortises on the ends for the slip tenons using the router box. After mortising, fit and glue the loose tenons into the side rails. ➤

Use an angle block for side-rail mortises



This white oak Arts and Crafts style chair fits comfortably in a dining room or a library setting. Though primarily rectilinear, the chair has a curved back splat and some angled joinery, so there are some construction challenges. But jigs and templates help you handle the curves and angles.



You want the arches in the chair rails to be consistent, so cut them to shape using templates made of ¼-in. Masonite. You'll need three templates for the seat-rail arches: one each for the front, sides, and back. Use the templates to draw the arch on the seat rails, then use a bandsaw to remove most of the waste. Now use a bearing-guided straight bit to template-route the arches.

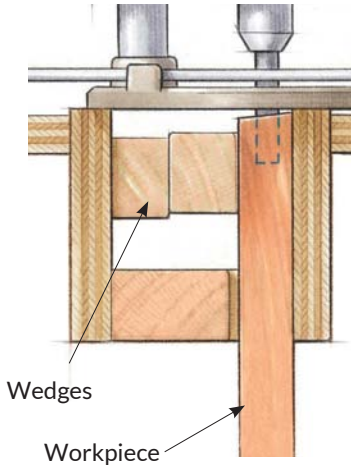
few more steps than the seat rails. Mill up extra thick blanks and cut the offset tenons on the ends. For consistency, it helps to make a template showing both the inside and outside curves of the rail. Trace the concave curve first, then remove the waste with a bandsaw and clean up the surface using a spokeshave or sandpaper. If you prefer, you can use the template to make a jig to clean up the surfaces using either a router or shaper. Now use a marking gauge to scribe the $\frac{3}{8}$ -in. thickness of

Before shaping the crest and bottom rails further, lay out and cut the four small mortises for the back splat.

The next operation is to arch the top of the crest rail using the same method and template used to shape the back seat rail (save the cutoff). Finally, cut the convex curves of the crest and bottom rails on the bandsaw, just leaving the line. Clean up these faces with a disk or belt sander.

Use the box for end grain too

The front and back rails meet the legs at 90° and have standard tenons. But the side rails meet the legs at an angle. Instead of cutting angled tenons, mortise for slip tenons.



Mortise the ends of the rails. These mortises are easily cut by wedging the rail vertically in the router box.



Square up the mortises. Use a chisel and mallet and pare to the line.

Back splat serves as the focal point

The back splat is a curved assembly of 1-in.-wide strips, with three 1-in.-sq. openings at the top, that conforms to the shape of the crest rail and the back rail. For this element, you'll need two blanks, $\frac{3}{8}$ in. and $\frac{5}{8}$ in., thick and wide enough to cut the required number of strips.

Dry-fit the crest rail and the back rail into the legs and measure vertically between them. Add 1 in. to that measurement for the $\frac{1}{2}$ -in. tenons, and cut the $\frac{3}{8}$ -in.-thick blank to length. Now cut $\frac{3}{8}$ -in.-thick tenons on each end, rip the board into four 1-in.-wide strips and then cut the remaining tenon shoulders on the strips. Next, cut the grooves for the $\frac{3}{8}$ -in.-thick strips, beginning 1 in. from the top shoulder line, and square up the top edge with a chisel.

Now cut the $\frac{3}{8}$ -in.-thick blank to the same length as the grooves, rip it into strips, and joint a 2° bevel along each edge of the thin strips. Sand all the parts to P220-grit and glue up the back splat using the crest rail and bottom rail as glue-up jigs. To avoid squeeze-out, use a glue syringe to apply the glue.

Glue up the front and rear assemblies

While the back-rest assembly is drying, glue up the two front legs and the front seat rail. Notch the tenon on the front rail to give clearance for the side-rail tenons. Be sure the legs are parallel ➤



Glue the loose tenons in the side rails. The tenon should fit with a bit of hand pressure. If you have to beat on it with a mallet, the fit is too tight; if it drops out, it is too loose.

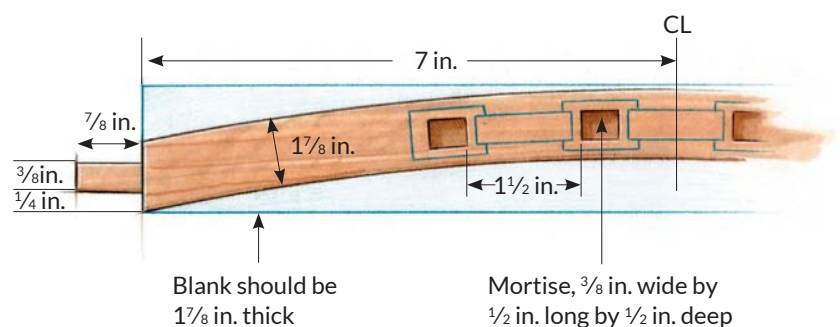


Now rout the side-rail arches. Rough-cut the curve on the bandsaw. For consistency, screw a router template to the tenons, and secure the assembly to bench for routing.

Make the back-rest assembly

The rails of the back rest are curved on the front and back faces, and the crest rail is arched on its top edge. Both rails are mortised to hold the back splat, a curved assembly of narrow strips.

CREST RAIL AND LOWER BACK RAIL LAYOUT



with no toe-in or splay as you clamp up the assembly. Reinforce the joints with a $\frac{3}{16}$ -in.-dia. dowel hidden on the inside face.

When the glued-up back splat has cured, remove the crest and back rails, apply glue to the mortises, and glue these parts together. To help with the clamp-up, use the arch cutoff as a caul.

Allow this assembly to dry, then glue it and the back seat rail to the rear legs. Again, reinforce the rear seat tenons on the inside with a $\frac{3}{16}$ -in.-dia. dowel. While you are at it, install the $\frac{3}{16}$ -in. pegs in the tops of the rear legs through the $\frac{1}{4}$ -in.-sq. peg holes to reinforce the crest rail mortise-and-tenon joint.

Install the lower stretcher assembly

Not only does the lower stretcher assembly help stabilize the lower part of the chair against racking forces but the exposed dovetail joints also add a decorative twist. The side stretchers connect to the legs with slip tenons, and the cross stretchers are attached to the side stretchers with half-lapped dovetails.

With the chair dry-fitted and clamped together on a flat surface, measure and cut the lower stretchers to width and thickness. The side stretchers meet the legs at compound angles with slip-tenon joinery. The mortises are already cut. To cut the compound angle on the ends of the stretchers, set a bevel square to the angle formed where the inside face of the rear leg and the flat surface meet. Set the tablesaw's miter gauge to that angle, set the blade to 85.5° (double-check that angle with another bevel gauge) and cut the compound angle on the rear end of one stretcher. To cut the opposite stretcher, reset the miter gauge past



Cut and fit the $\frac{5}{8}$ -in.-thick strips into the mortises in the rails, then rout the $\frac{3}{8}$ -in.-wide groove, $\frac{1}{8}$ in. deep, into their edges. The outside strips are grooved only on the inside edge.



Cut the tenons and the inside curve of the rails before mortising. Mark the locations of the back-splat mortises using a template and drill them out on a drill press. A curved fence helps support the tall workpiece.



Arch the top of the crest rail next. Reuse the rear seat rail template to trace the arch along the top of the crest rail, then rough out the shape on the bandsaw.



Bevel the thin strips. After ripping the $\frac{3}{8}$ -in.-thick strips to width, joint a 2° bevel on their edges to allow the splat to curve.



Next, following the lines marked from the template, square up the mortise.

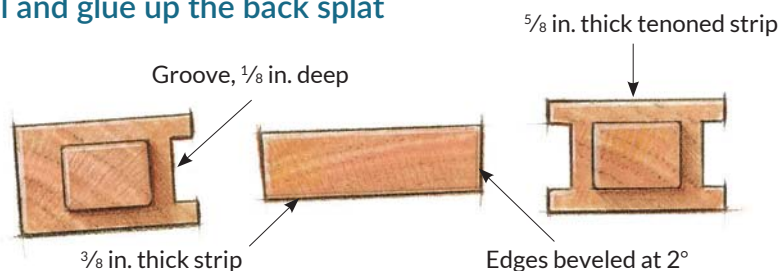


Finally, cut the curves on the backs of the top rails. Leave the scribe line, and clean up the surfaces with a belt or disk sander.



Use the rails to guide the glue-up. Apply glue with a syringe to avoid squeeze-out. Do not glue the splat to the rails yet. Once the back splat has dried, glue it to the crest and bottom rails, then assemble the rest of the back.

Mill and glue up the back splat



90° to the same angle in the other direction. Now cut the forward ends of the stretchers at 90° – with the miter gauge at 90° and the blade still at 85.5° – sneaking up on the length until they just fit.

Next, cut a $\frac{3}{8}$ -in.-wide mortise, centered in the end grain of each stretcher and about $\frac{3}{4}$ in. deep. Dry-fit the slip tenons. When the fit is perfect, glue up the chair.

While this glue is setting, you can mill up the two cross stretchers. Once the stock is milled to width and thickness, locate where each cross stretcher will meet the side stretchers. Cut each one to length, leaving them about $\frac{1}{8}$ in. extralong on both ends.

Hold a cross stretcher in place, and locate the shoulder cut by scribing a line on the underside where it meets the side stretcher.

Cut a half-lapped dovetail on each end of each cross stretcher. Set the cross stretchers in place, then scribe and cut out the dovetail slots in the side stretchers using a handsaw and chisels. Once the dovetail sockets have been cleaned out, glue the cross stretchers in place.

After the glue has set, sand all the stretchers flush on their upper faces, and go over the chair thoroughly for any residual glue squeeze-out and touch-up sanding. Finally, make up the corner blocks and screw them to the inside corners, flush with the upper edges of the front and rear seat rails. Add an additional screw hole up through the body of the corner blocks before attaching them. This will be used to attach the upholstered slip seat to the chair.



The rear shoulders of the stretchers are angled 85.5° horizontally. They must also be angled vertically to match the leg taper. Dry-clip the chair, and set a bevel gauge to the vertical angle.



Creep up on the fit. Reset the miter gauge to 90°, leaving the blade tilted to 85.5°, and cut the front shoulders. Leave each stretcher a little long and take light cuts until the ends align with the mortise locations.



Install the cross stretchers after glue-up. Cut the half-lapped dovetails on the cross stretchers, then scribe them onto the side stretchers.



Screw in the corner blocks. The blocks help reinforce the corner joints and serve as anchors for the seat frame.

The very last item before finishing is installing the pyramid-shaped decorative pegs in the crest rail. I use ebony, but any hardwood species will work.

This white-oak chair is fumed with a topcoat of Tried & True linseed oil. The seat is upholstered in leather purchased from Dualoy Leather (www.dualoy.com).

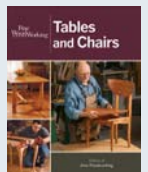
Fine Woodworking Tables and Chairs

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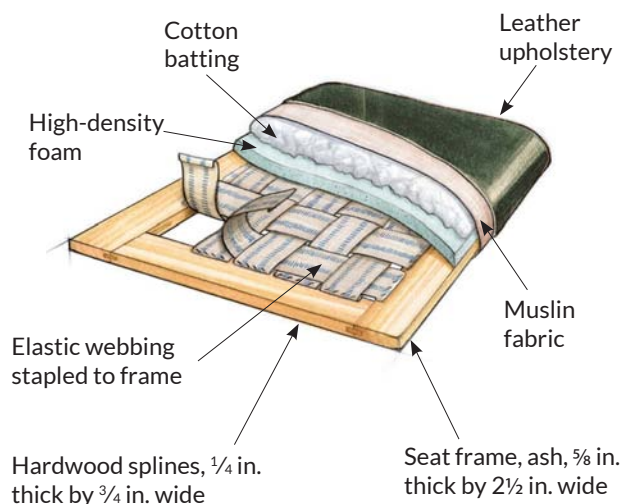
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Slip seat completes the chair



Last, the slip seat. The chair has a leather-upholstered seat, installed after the chair has been fumed and finished. The frame is screwed to the corner blocks between the rails. ■

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Plana 3.1c shown with optional
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Plana 6.1c shown in planing
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Plana 6.1c shown in thicknessing
mode



Woova 4.0 extractor

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Insight

Timber in its final drying stage before making

Timber storage

Peter Sefton looks at his school's method of storing timber

The way we store and treat our timber is critical to making good quality furniture that will serve our customers well over time and it's important to ensure our timber is well dried and stable before we start our construction. We have a tried and tested system that works for us here at the School and we have very few timber movement issues after construction of the final piece.

The process

The first stage of the process is careful timber selection and buying from reliable sources, ensuring the timber is either well air dried, kiln dried or best of all, a combination of both. The



The humidistat shows the store room at about 11% moisture level

majority of our timber has been kiln dried to about 13% moisture content, but is then often stored in outside drying sheds; the timber will tend to take in moisture again, to match the local humidity conditions. Remember, no matter where timber is stored, it will always reach equilibrium with its surroundings over time.

Once the fresh timber enters our workshop we put it to rest in our humidity controlled internal storeroom. This racked out room has a plumbed-in dehumidifier and a humidity Stat to constantly measure the levels within the room. The fresh timber is stacked on a cantilever scaffolding rack with sticks between each piece of timber to allow air movement. The thicker the stick the more airflow between the boards and the quicker final conditioning will occur.

The boards are entering the storeroom at maybe 15–18% moisture content but will normally reach the same level as our store area in a matter of a couple of months. The storeroom is normally constant at around 10% moisture level; 25mm thick boards should reach this level within a couple of weeks, a little longer for bigger sections. If possible we pre-cut our timber to rough sawn sizes before entering the drying room to speed up this drying process. After the boards



Fresh kiln-dried timber piled up on our timber racks



Our plumbed-in dehumidifier drying the timber

have been acclimatising to these internal conditions we will bring them closer to their finished size and re-stack them within our warmer workshop before final working to size. We find this gives us much better control over the end result and far fewer long-term problems with the furniture we craft. ■

Peter Sefton

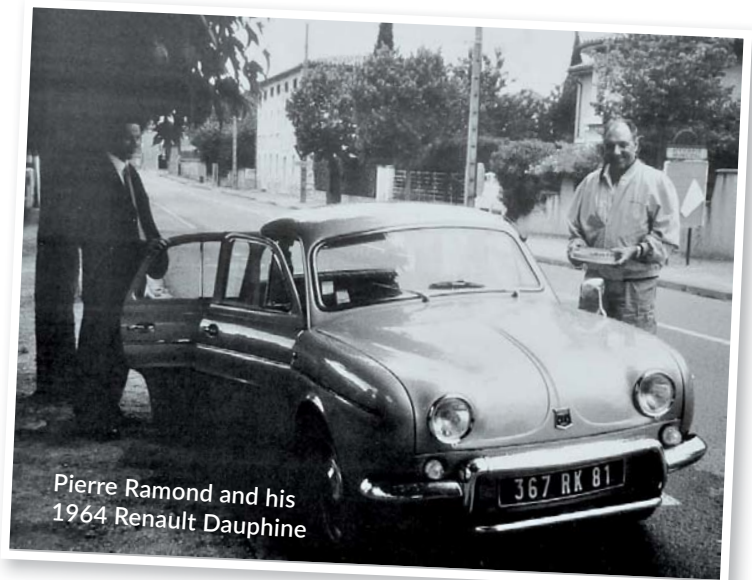
Peter Sefton is a well-known furniture maker who runs courses in fine woodworking, teaching and mentoring students at the Peter Sefton Furniture School. He also owns Wood Workers Workshop and he is a Liveryman of the Worshipful Company of Furniture Makers.
Web: www.peterseftonfurniture.com



NEWS & EVENTS

All the latest events and news from the world of woodworking...

Yannick Chastang remembers Pierre Ramond, 1935-2015



Pierre Ramond and his 1964 Renault Dauphine

Doctor Pierre Ramond died on 24 October, 2015 in Paris after a long battle with cancer.

Pierre was one of the last great, traditionally trained, marqueteurs. He was an expert in his field, teaching at the Ecole Boulle, the Sorbonne, the Ecole du Patrimoine and at Buckinghamshire Chilterns University. He was author of five major books on marquetry furniture (*La Marqueterie, Chefs d'Oeuvre des Marqueteurs vols I, II and III* and *André-Charles Boulle*). His first book, *La Marqueterie*, was first published in 1977 and has been reprinted seven times in three languages. *La Marqueterie* is still regarded today as the definitive book on the subject. Pierre was also a member of the advisory conservation committee at the Wallace Collection and widely shared his expertise among the museum world.

Originally from the south west of France, Pierre learnt cabinet making and marquetry in the small town of Revel, famous for the traditional manufacture of luxury French furniture. He later moved to Paris to head up the marquetry workshop of

Pierre Rosenau. At the closure of Rosenau's workshop he opened his own studio with his wife Gigi near Paris. At the same time, Pierre started teaching marquetry at the École Boulle in Paris.

It is at the École Boulle that Pierre spread his influence the furthest, fostering in those of us privileged to be taught by him a love of marquetry and historical furniture. In the 1970s, marquetry was not taught as a primary subject at École Boulle, however, once Pierre was invited to join the staff he quickly developed a workshop with a worldwide reputation. While just as formal and exacting as other teachers at École Boulle, he was warmer in nature and more approachable and the marquetry workshop was the most desired workshop among the students. However, among the younger students discipline and hard work was strongly enforced. The teaching was traditional and Pierre taught making marquetry the old way. Making piercing saw blades by hand was mandatory.

Students would compete to make blades to impress Pierre, however the quality had to remain excellent.

Pierre would raise the blade up to the light to check the setting of the teeth and every Boulle student would dread his blunt "pas bon" if the blade was not up to scratch. The blade was then broken in two and we were left holding the pieces with no option but to start again. Marquetry work had to be of the same high quality. Working as precisely as to tenths of millimetres, the marquetry, all cut by hand on traditional Parisian marquetry donkeys, had to be perfect. Pierre would never judge a marquetry that had just been assembled because water from the glue often made the joints very tight and therefore deceptively perfect. The marquetry designs would stay on his desk for several days to dry before he looked at them. Then the marquetry exercises were marked. One of his methods being to hold them up to strong light and, if any light came through, the score and comments were again not very tactful. If he was really unimpressed then the marquetry would end up in pieces. He was a perfectionist. It is largely due to Pierre's work that marquetry thrives today. He was passionate in his speech and his interests, which also extended to a great passion for motorbikes, another thing he passed on to many of us students!

Pierre Ramond will be greatly missed. He will be remembered as a teacher, friend, expert, historian and enthusiast. His legacy will inspire future generations of marqueteurs and furniture historians.

Yannick Chastang, November 2015

The Midlands Woodworking & Power Tool Show

Now in its third year, the Midlands Woodworking & Power Tool Show has quickly become one of the most popular events on the woodworking calendar. The 2016 event will feature demonstrations by woodturners and carvers, sharpening with Nic Westermann and scroll saw demonstrations by Wayne Mack.

Advance tickets, which save money and queuing – are available via Nelton's website and the ticket hotline – 01474 536535.

When: 18–19 March, 2016

Where: Newark Showground, Lincoln Road, Winthorpe, Newark, Nottinghamshire NG24 2NY

Web: www.nelton.co.uk

Bucks New University Furniture student wins Robin Day Centenary Design Project

Bucks New University Furniture student Sebiha Macit has been awarded a prize for her concept work in the first of the two-stage Robin Day Centenary Design Project. Sebiha, 22, studying BA (Hons) Furniture, collected her prize, a copy of the book, *Robin and Lucienne Day: Pioneers of Contemporary Design*, from Paula Day, Robin Day's daughter and founder of The Robin and Lucienne Day Foundation.

Sebiha's project was inspired by traditional Turkish stools and she presented a scale model and full-size detail of how it would look when constructed. She said: "I was pleasantly surprised to receive the award as there were so many other great design ideas."

"My design took inspiration from traditional Turkish stools used in Turkish cafés for both outdoor and indoor use. It was about having a stool that was light and practical which would also look good in both settings, as well as being portable, making it easier for the user to carry the stool without any hardship."

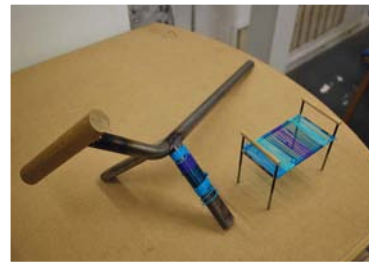
Robin Day OBE, who died in 2010, studied at Bucks New University in the 1930s when it was called High Wycombe College of Art and he was awarded an Honorary Doctorate by the University in 2003. He would have turned 100 this year.

Merits were awarded to Madara Degtere, Jack Hazell, and Hannah Vincent and a further award will be presented for full-size design prototypes at the end-of-year art and design show at Bucks New University in June. Fiona Davidson, Senior Lecturer in Furniture, said: "Robin Day was, without doubt, one of the pioneers of British post-war design."

"He was born and bred in High Wycombe and is one of Bucks New University's most illustrious alumni. In this, his centenary year, BA (Hons) Furniture is privileged to run this project with The Robin and Lucienne Day Foundation. It represents our own Bucks homage to Robin Day's enduring and inspirational design legacy."

His daughter, Paula Day said: "There was an excellent range of work and some students had used the model-making process to investigate and develop their design concept to good effect."

Bucks New University Furniture student Sebiha Macit receives her award from Paula Day, daughter of Robin Day OBE; and an image of her work



"We look forward to returning to Bucks New University next June to see the progress made by students on their designs and to award a prize."

Robin Day was one of the most significant British furniture designers of the 20th century and designed the world's first injection-moulded Polypropylene chair.

It was originally designed in 1963 for the firm of S. Hille & Co. and is still in production today by its successor, Hille Educational Products. The Robin Day Polypropylene chair was the first polypropylene shell chair ever created and tens of millions have been sold worldwide.

Amos Marchant, furniture technician with The Robin and Lucienne Day Foundation, set up and oversaw the Robin Day Centenary design project with lecturers Fiona Davidson and Alex Hellum.

Contact: Buckinghamshire New University
Web: www.bucks.ac.uk



The setting for Weald of Kent Craft & Design Show

Weald of Kent Craft & Design Show

Weald of Kent Crafts & Design Show returns to the beautiful Penshurst Place on 30 April, 2016 for their three-day fair. Find unusual handmade crafts for the home and garden and enjoy a day out for all the family! Meet up to 250 artist crafts people from all over the UK who will be bringing you the very best in unusual and inspiring crafts, not usually found on the high street.

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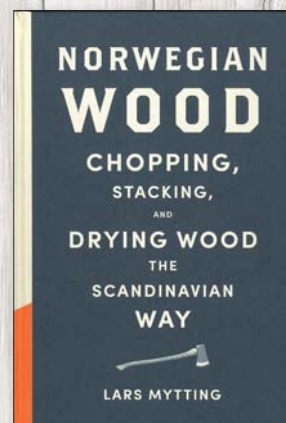
BOOK REVIEWS

This month the **Editor** and **Vanessa Sutcliffe** review three books for you to enjoy

Norwegian Wood

by Lars Mytting

Norwegian Wood rightly reclaims its title from a well known Beatles track, but is not to be confused with a novel of the same name. It entirely lives up to its cover subtitle – Chopping, Stacking, and Drying Wood the Scandinavian Way. I was alerted to the presence of this book because it has become a global bestseller, selling over 300,000 copies. It is a thick, comprehensive tome, which achieves the almost impossible task of being very technical throughout and yet Lars Mytting manages to weave in myth, folklore and some real human stories. With chapters on The Cold, The Forest, The Tools, The Chopping Block, The Woodpile, The Seasoning, The Stove and The Fire, it covers every stage and every aspect of the subject. Any book that is so obsessive about a subject runs the risk of being self indulgent, but I found it to be 100% interesting and better than 95% useful for woodburning here in the UK. If you are serious about woodburning for heat, then it would be silly not to own a copy, because it will save you money in the end!



ISBN: 9780857052551

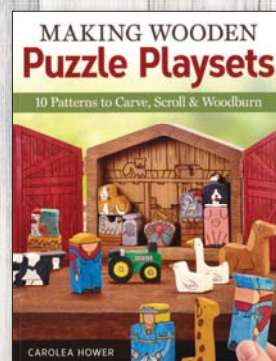
Price: £20

Web: www.maclehosepress.com

Making Wooden Puzzle Playsets: 10 Patterns to Carve, Scroll & Woodburn

by Carolea Hower

This delightful book is clearly laid out with a comprehensive introduction, describing the techniques used and all of the equipment you will need for the projects. There are 10 wonderful projects to tackle. Each project produces a woodburned or carved box with hinged doors, which open up to reveal a set of brightly painted puzzle pieces nestled inside. Carolea includes a straightforward materials list for each of the projects, with large photographs of the finished items, both packed away and taken out ready for play. A painting index gives a close-up image of each puzzle piece with suggested paint colours for decoration. The patterns for the box and the puzzle pieces are drawn to scale and give an indication of where woodburning or carving may be carried out for further detail. This book will certainly inspire woodworkers to produce these simple, enigmatic toys. The projects can be followed to the letter, or better still, used to give the reader inspiration in creating their own personalised designs.



ISBN: 9781565238664

Price: £9.99

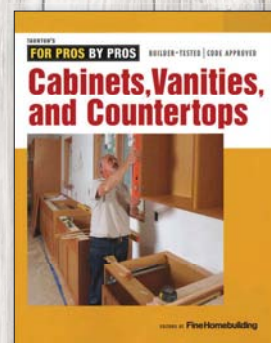
Web: www.gmcpubs.com

Cabinets, Vanities, and Countertops

by the Editors of Fine Homebuilding

This book provides a no-nonsense approach to cabinet building, focusing on functional, practical design with a money-saving purpose. *Fine Homebuilding* are keen to enable homeworkers to learn from professional builders, who give all the necessary advice on materials and equipment to undertake different tasks and complete the projects.

The chapters are individually written by experts, approaching topics such as refinishing cabinets, faster and easier custom cabinets, making raised-panel doors and crown moulding for kitchen cabinets. Focus boxes in each chapter give information on tool techniques, finishes and materials. There are also frequent references to eco-building options throughout the book and some useful lists of material sources. In all, this really is a comprehensive tome with some appealing approaches from different experts that will inspire any DIY enthusiast.



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What you will need

- Screwdriver
- Drill and various drill bits
- Hammer
- Knife
- Rule
- Spokeshave
- Chisels – various widths
- Mallet
- Veneer hammer
- Animal/hide glue and glue pot
- Gouge
- Flat bit
- Straightedge
- Polish mops
- Short-haired brushes
- PPE – eye protection, gloves and fume mask

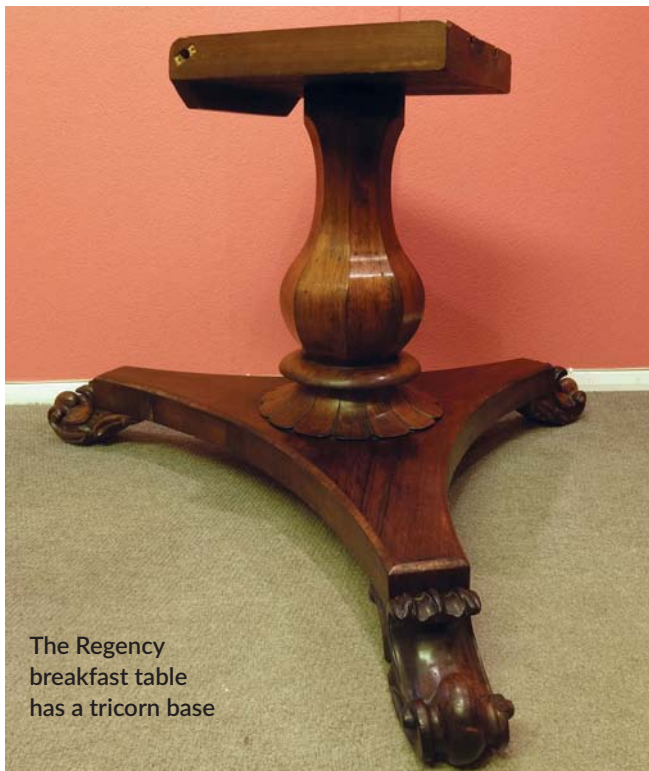


PHOTOGRAPHS BY LOUISE BIGGS

Rosewood breakfast table

Louise Biggs restores a Regency-era rosewood table

I have several clients who prefer antique furniture and this rosewood table came in from one of them. Dating from the Regency period circa 1810–30, the table has an octagonal baluster with a tricorn base on carved feet and castors. With a tilt top they are sometimes referred to as breakfast tables and other times as centre tables. ➤



The Regency breakfast table has a tricorn base

Assessment

- Small sections of veneer were missing from the base.
- The top, when down, was not stable and when tilted up it dropped down under the weight.
- The table-clip had been badly repaired and was in need of restoration; because of the bad repair it was not clipping in to the base properly.
- The threaded plates for the table screws were badly worn, which caused the top to drop down and be unstable.
- Small sections of veneer were missing from the underside of the rim.
- Sections of veneer were missing from the pedestal's top block.
- The castors needed to be replaced.
- The top had been badly scratched.
- The original castors had at some point been removed.

My clients asked if anything could be done with the scratched top but after discussion we decided to leave it alone. Firstly, doing anything to the colour/patina would devalue the table and, secondly, touch it and it will go back to the dark rich colour of freshly cut rosewood (*Dalbergia spp.*).



The table top had several scratches

STAGES OF RESTORATION

1 The table catch and table screw plates were in need of restoration and in order for them to be repaired/replaced they were removed so they could be sent away for assessment and repair.

2 With the table catch removed the worn screw holes were drilled out. I marked the depth required with some tape around the drill bit, then glued and plugged them with timber. Once dry, they were levelled off ready for the catch to be re-fitted.

3 On the underside of the table rim the veneers were replaced by cutting a joint across the width of the rim. This makes for a far neater repair and is less visible than trying to cut in a small triangle. I prepared a thin section of old mahogany (*Plathymenia reticulata*) and cut its position into the rim using a knife.

4 The piece was fitted into the rim using a chisel and glued into position with animal/hide glue. When dry the piece was levelled off using a spokeshave. Where the joints in the top had been glued there was old glue spread either side of the joints. As the underside is visible when tilted up these areas were cleaned up at the same time.

5 When replacing missing veneers, it is best to use old veneers if at all possible. These veneers are usually stripped off old furniture or boxes that are past repair and are not of great monetary or historical value. For the base, I replaced the missing veneers with old rosewood veneers. Like the ones on the table, these will have mellowed over the years so that the colours should be very similar. They were fitted flush to the surface to keep cleaning up to a minimum.

Optimum Brasses

Optimum Brasses is a specialist company who replicate brass furniture fittings from period originals using the lost wax technique. The fittings are hand polished, assembled and antiqued. They will also repair period fittings using replica parts as in the case of my catch and screw plates.

www.optimumbrasses.co.uk



1



2



3



4

Rosewood will go very dark if the aged surface is disturbed.

6 As with the mahogany pieces, I cleaned out and cut in the pieces of old rosewood veneer, cutting the ground in deeper where necessary to keep the surfaces flush.

7 The veneers were glued and taped in position and when dry, very little cleaning up was required.



5



6



7

8 With the top tilted up, the veneer damage to the lead edge of the pedestal top block could be clearly seen. As before with the underside of the rim, sections of mahogany veneer were cut in. On corners I tend to cut long joints which will help to lose the joint when staining and polishing. The section of veneer is cut first, held in position and marked with a knife and then cleaned up to the joint line with a chisel.



9 I cut a long joint for the section between the two table-clip keeps. The veneer was fitted in the same way and then all pieces were glued into place. A veneer hammer was used where required to remove any excess glue and the joints were taped with veneer tape to keep them tight.



10 The replica table screw plates were a little longer than the originals so I marked around the new plate keeping in line with the old recess as much as possible. I lined up the position of the threaded hole in the plate with the hole in the pedestal top block as this keeps the swivel point of the tilt top in the right place. You can insert the table screw but I find it can get in the way.



11 A chisel and mallet was then used to recut the recess, making sure the table base was sitting securely while this was done. With the recess altered, I trial fitted the plate for a tight fit in the block.

12 At this stage any further adjustments can be made before screwing the plates in place. The table top and pedestal were brought together and the table screws fitted in position.



13 Next, the table-clip was re-fitted to the top. The clip was lined up with the keeps and positioned as close to the block as possible. One screw was inserted on each side to check whether the clip pulls back enough to release the top while clipping back in place when the top is brought down.

14 I filed the edges of the keeps using a small needle file to make the final adjustments. The remaining screws were fitted which should leave the top firmly locked to the pedestal with no movement.

15 The only evidence of the original castors were a main threaded hole for the screw and three screw holes for the plate. I purchased some new castors, as the company that repaired the table screw plates and clip did not have screw plate castors. To start with I needed to antique the castors, which required the lacquer removed first. Having placed the castors in a container of paint stripper,

cleaned off the debris and neutralised them with methylated spirits I further cleaned them using a solution of equal parts citric acid (lemon juice), acetic acid (vinegar) and salt and 0000 wire wool. When working with these substances, gloves, eye and fume protection must be worn at all times, firstly because of the stripper, etc., and secondly, the gloves will avoid any finger marks showing on the castors. ➤



16 Having immersed the castors in antiquing fluid they were neutralised with cold water and when dry, highlighted to look more naturally worn using 0000 wire wool. They were then coated in jade oil to fix the antiquing fluid.

17 The castors were inserted in position and the height was measured at each castor using a straightedge. The table needed to be levelled due to movement in the tricorner base, so I had to recess the castors into the feet.

18 I marked a circle for each castor that needed to be recessed, allowing clearance for the section that holds the wheel.

19 I used a flat bit in a drill to take out most of the recess and then a gouge and mallet to take out the remaining timber until the castor fitted, swivelled around freely and the table stood level. Using slotted brass screws with antiqued heads, the castors were screwed into place.

20 The repairs on the pedestal top block and the underside of the top were stained to match using Vandyke crystals and when dry they were sealed with shellac sealer.

Louise Biggs

Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London, before starting her own business designing and making bespoke furniture and restoring furniture.

Web: www.anthemion-furniture.co.uk



The colour of the stain can be adjusted to suit by dissolving more crystals (stronger stain) or by adding more water (weaker stain). They were then coloured and polished in to match as required.

21 The table was given a coat of tinted wax – I tend to use a Georgian mahogany colour – which was left on for 20 minutes or so and then buffed off with a soft cloth. To get in and around the carved feet and decoration on the pedestal I use separate short-haired brushes for putting the wax on and buffing up.

22 The table could now be returned in a stable condition. With the top able to be tilted up and the new castors it is ready for many more years of use. ■

Suppliers

Castors: www.j-shiner.co.uk

Antiquing fluid: www.restoration-materials.co.uk

Jade oil: www.liberon.co.uk





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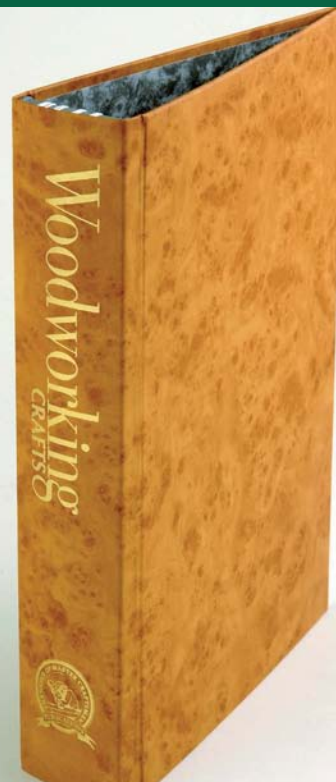
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Scrollsaw Tiger portrait

In an extract taken from *Big Book of Scroll Saw Woodworking*, **Neal Moore** uses segmentation to give a tiger portrait a realistic look

This project uses a technique called segmentation portraiture. I believe Kerry Shirts and Pat Spielman originated it; it combines scroll sawing and wood staining to create realistic portraits in relief.

I like segmentation because, unlike traditional intarsia, I'm not limited by the colors found in natural wood. Using these techniques, I can stain the wood to achieve just about any color I need. I also like the way some of the pieces resemble loose oil paintings – when you're up close, a lot of them don't make sense but when you step back a few feet, everything falls into perspective and the 3-D relief just jumps out at you.

I love animals, so when I come across a photo that inspires me I draw the pattern as I see it. I really liked the tiger's regal pose that the photographer captured and thought it would make a great portrait. The project really isn't difficult to complete, and when suitably framed and displayed, is a work of art anyone can appreciate.

Materials:

- ½" x 17" x 19" soft, light-colored wood (portrait)
- 2 pieces ¾" x 20" x 20" luan (backing board and layout board)
- Stain: dark walnut, golden oak, and colonial maple
- White paint
- Toothpicks
- Cotton swabs
- Disposable foam paintbrushes
- Disposable aluminum baking pan
- Temporary bond spray adhesive (optional)
- Old towel or rags

Tools:

- #2 and #5 blades or blades of choice
- Scissors (to trim pattern)
- Hot-melt glue gun with glue



Top tip: Hot-melt glue saves time

Use hot-melt glue to tack the segments together. It sets up quicker than wood glue. And if I don't like the position of a piece, it's easy to clean off the glue and start over. To use hot-melt glue on this project, sandwich the portrait between two pieces of luan, and flip it so the backside of the portrait is up. Tack the pieces together how you want them, and flip it over again with the two pieces of luan. Make any necessary changes, and use the two pieces of luan to flip it over again. Run a heavy bead of glue along every seam and saw blade kerf. I probably used eight or ten sticks of glue on the tiger, so don't worry about using too much.



PHOTOGRAPH COURTESY OF GMC/ANTHONY BAILEY

- 1** Make sure the table is square to the blade.
- 2** Trim the paper pattern to size. Leave ½" of paper outside the pattern lines. Then, transfer the pattern to your blank.
- 3** Cut the excess wood up to the pattern (½" outside the pattern lines). This removes the corners and makes the work piece more manageable. Use the #5 blade.
- 4** Cut the tiger's left shoulder off. Cut along the line on the tiger's stripe between the neck and left shoulder. If your blade moves off the line, don't back up and start over. Just ease the blade back on course. There are few straight lines in nature and the integrity of the pattern will still be intact. If you back up and start again, you will leave a gap from the saw kerf, which could be noticeable in the finished work.
- 5** Cut off the tiger's right shoulder using the same technique. Put both shoulders aside for now.



- 7** Cut the individual segments of the ears and shoulders by following the pattern lines. Cut several segments and re-assemble them as you go on one of the pieces of luan – that way it's less of a puzzle to put together later, and you won't lose any pieces.
- 8** Cut out the rest of the segments. Work from the outside in. Try to cut the whiskers out as soon as possible to prevent them from breaking off. Plan each cut because you need to know where the blade will exit. Remember, there is no waste within the pattern itself, and each segment represents an integral part of the whole image. You don't want to wind up with a piece of the pattern so small that it's impossible to cut out.
- 9** Pierce cut the eyes. Drill a blade entry hole right on the line between the dark eyeball and the black stripe around the eye. Cut the eyeball out with the #2 blade. Remove the other two segments of the eye in order. This way, you only need one hole for each eye.
- 10** Drill the blade entry holes for the stripes. These should be right on the line as well. Then, cut out the stripes. When the piece is stained and assembled, the holes will be almost invisible.
- 11** Dip all of the light areas of the tiger's face (as shown on the pattern) in golden oak stain. Do not stain the whiskers. Immediately wipe the pieces as dry as possible. ➤

Top tip: Aluminum baking pans

Use aluminum baking pans as a reservoir for stain. They are the perfect size for dropping pieces into and are inexpensive enough to throw away when the project is finished.

- 6** Cut off the right ear using the #2 blade. Then, cut off the left ear. Leave the waste material intact – the waste gives you something to hold on to when cutting the individual segments for the ear.



Finishing guide

The pieces are completely stained and set aside to dry for a couple days.



- Orange-hued areas: Coat the segment with golden oak and immediately wipe it off. Smear and blend a light coat of colonial maple over the damp golden oak using a shading brush, cotton swab, or a finger. Smear and blend until it looks right.
- Nose: Dip it in colonial maple, and allow it to air dry. Smear a little golden oak along the top edge for contrast.
- Small segment above the tip of the nose, below the bridge of the nose: Dip it in golden oak, and allow it to dry.
- Bridge of the nose: I accidentally got the right color for this part. I intended to use wet golden oak on the bridge of the nose and then smear dark walnut on the upper part to get the dark shading I needed. I put too much dark walnut on it, and it ran everywhere. I tipped the piece up to try to let some of the walnut run off, and it came out just the color I wanted.
- Dark part under black eyeball: Dip it in golden oak, and smear on a little dark walnut.
- Light part of eye: Dip it in golden oak.
- White in eyes: Use white paint on a small brush or toothpick to add the small dots.

12 Dip the stripes in dark walnut stain. Place them on an old towel, and allow them to air dry.

13 Stain the remaining segments. Start at the bottom of the image. See the finishing guide for specific instructions.

14 Lay out the portrait and glue the pieces together. Do not glue them to the backer board yet. Elevate the edges of some of the segments above the others to give the portrait some relief. Because I use hot glue, I put a dot of glue on the pieces and simply hold them together until the glue dries. If you use traditional glue, you may need to clamp the pieces together or place shims under the pieces you want to elevate until the glue dries. The pieces that would be closer to you on a real tiger are elevated so they are closer to you when viewing the project from the front. Raise the black stripes about $\frac{1}{8}$ " to accentuate the furry look created by the shadows cast by the relief. The black segments in the nose and mouth were recessed about $\frac{1}{8}$ ". I also recessed the eyes slightly by gluing them in place a little lower than the surrounding segments. When the piece is viewed from a distance, the shadows tend to soften the overall impression, and the hard edges seem to disappear.

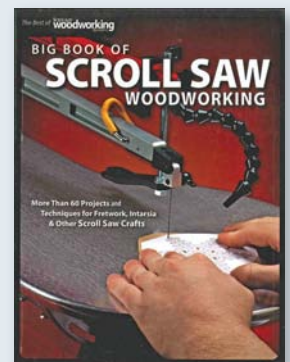
15 Add a backing board to the portrait. Use $\frac{1}{4}$ "-thick luan stained to compliment the tiger. Apply several beads of clear silicon adhesive to the back of the image and press it into position on the backing board. Place a heavy object on the portrait to hold it in place until the silicon dries. Frame as desired. ■

Big Book of Scroll Saw Woodworking

ISBN: 9781565234260

Price: £17.99

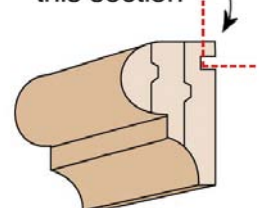
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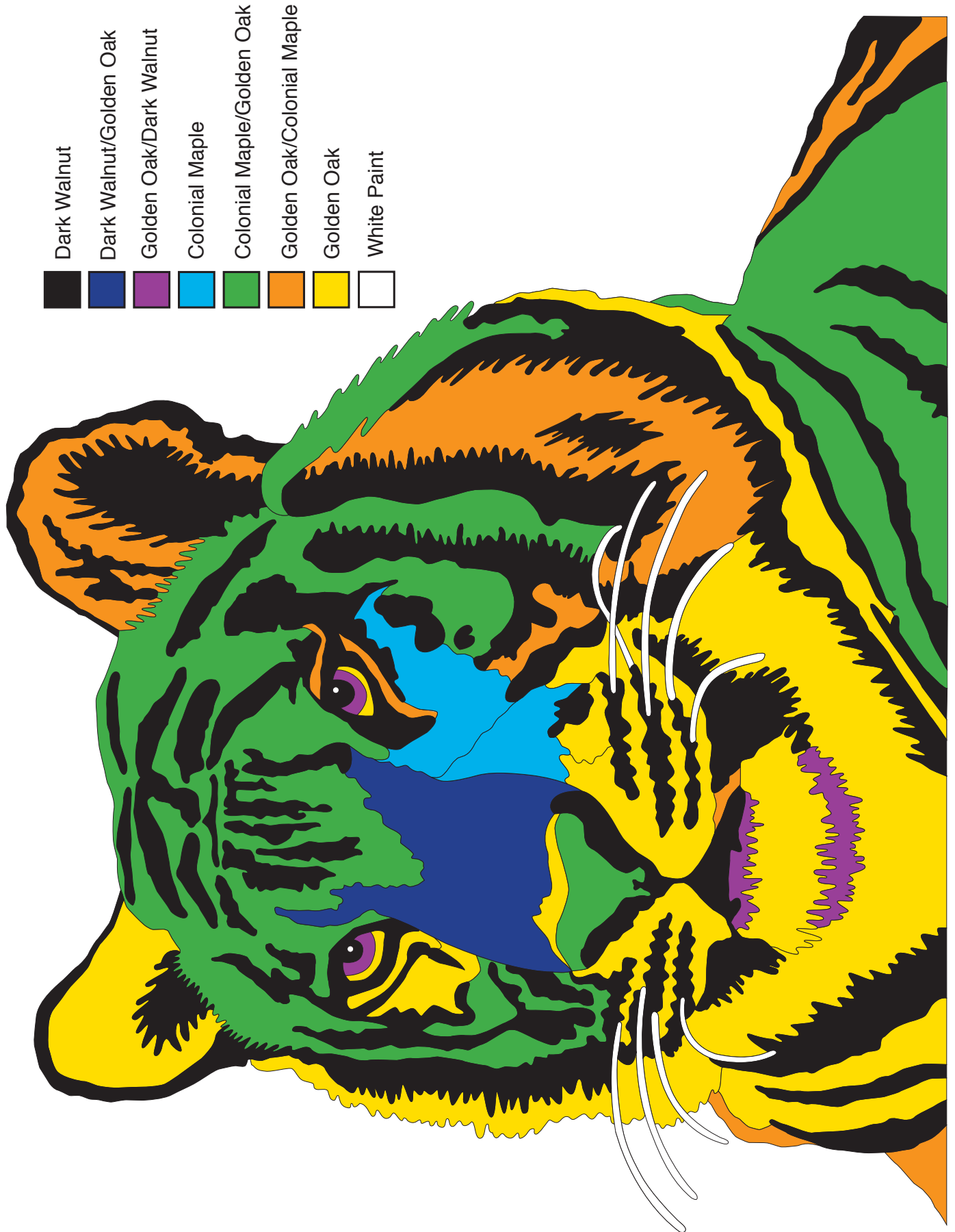


Inexpensive framing

I use a type of wood trim called false tread molding to construct my frames. It is used for trimming the front of stair treads. At $1\frac{1}{4}$ " thick by $1\frac{1}{16}$ " wide, it has a deep face and nice profile that makes it perfect for framing portraits. Start by cutting the miters so the thick side of the molding faces the inside of the frame. There is a $\frac{1}{4}$ "-deep channel milled into the back of the molding, but you will need to enlarge this channel into a $\frac{1}{2}$ "-deep and $\frac{1}{2}$ "-wide rabbet to make room for your backing board. I attach the backer with small nails. False tread molding is available in oak and poplar. The poplar is not as expensive as oak and can be stained to look like nearly any species of wood.

Rabbit out this section





GREEN WOODWORKING

PHOTOGRAPHS BY PETER WOOD



What you will need:

- A selection of large adze
- Small adze
- Inshave
- Travisher
- Scraper
- Drawknife
- Spokeshave
- Rasp
- Cramps
- Ash – 38 x 410 x 390mm

Making a Windsor chair – part 2

Peter Wood shows us how to form the seat in part 2 of his Windsor chair project

1 For this chair I've chosen a piece of 36mm thick ash (*Fraxinus excelsior*). You wouldn't want it to be any thinner using ash because its straight grain has a tendency to split. You also need some depth to allow for a nicely shaped seat and if you decide on blind tenons for the leg joint, you'll need enough thickness for a suitably

deep mortice. Elm (*Ulmus procera*) was the traditional seat material in the UK, its interlocking grain resisting splits, but with thicker stock any species will work. Mark the outline and cut out. You can use a jigsaw, bandsaw or frame saw. Mark the areas on the top for your initial shaping.



Safety

Working with edge tools always carries an element of risk, but adzes in particular have a reputation for causing injury through careless use. The full-size adze was known in the past as 'old shinbreaker'. You should wear safety boots and cowhide spats and stand correctly with feet apart when swinging the adze. The adze should be sharp as dull tools need more force to work at all.

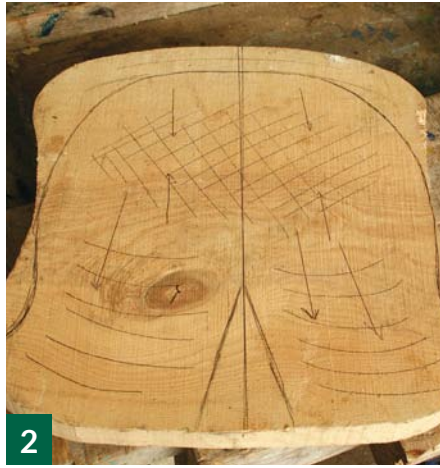
2 Start the cuts across the grain; mark a hatched line where you will remove most of the wood and a curved line where you will contour areas for the legs. The arrows show the direction of cut with the adze.

3 Mark the front to give an idea of the curve you would like at the front of the seat. There are many different methods and tools you can use to saddle the seat, some are interchangeable and others can be used to do all the shaping. Use the tools you have access to or that work best for you.

4 Start by roughly hollowing the seat using a full-size adze. This can be a dangerous tool if not used correctly, so I've made a simple jig to hold the seat blank and can use my feet to brace the jig. Swing the adze in a short arc using the weight of the tool to chop out the wood. I'm left handed and so use my left hand to hold the top of the handle forming the arc of the swing. My right elbow rests on my knee, this is important as it supports my back and the right hand guides the stroke. Don't just hold the top of the handle with both hands as this will put too much strain on your back.

5 Work from one side across the grain, this reduces tear out and pulling up of the grain. Be precise about where you cut; don't chop randomly in lots of different places; work methodically, running along the cut. Follow the cut through, taking small cuts until you either come out of the arc or you form a line to the depth you want. In this picture I've formed a line along the seat but I've followed each cut through to the same point.

6 Turn the seat around in the jig and adze from the front end. Stop cutting before you reach the front of ➤



Adze

My seat adze of choice (shown right) was made 25 years ago by Matt Sears, a great blacksmith. It's very simple, made from an old car spring and, to my mind, works perfectly for hollowing chair seats. For comparison here's the Gränsfors bowl adze (bottom right), which works OK. It's sharpened with a bevel on the outside which changes how it handles.



Adze made by Matt Sears



Gränsfors bowl adze



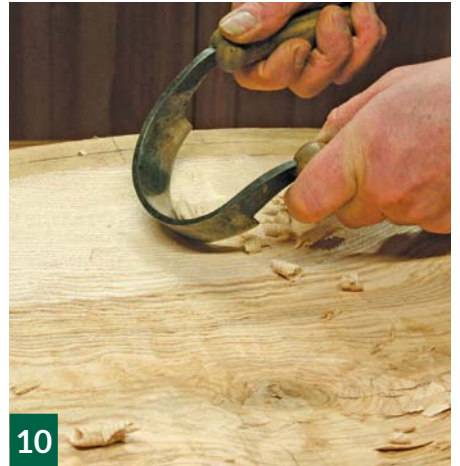
the seat. It's very easy to slip and cut in front of the seat just where you don't want it. The full-size adze can remove a surprisingly large amount of wood and can also be used delicately to give a scalloped finish to the seat bottom, but I find it hard on the back.

7 Use this adze with the seat vertical in a vice. Protect the vice with a wooden block and make sure the work is level with your shoulders; you may need to raise your bench to achieve this. Start cutting across the grain, then as you reach the desired shape, turn your cut parallel with the grain for a smoother finish. With practice you can adze right up to your line and achieve a smooth-tooled finish. Safety note: this method is much kinder on your back.

8 Finish hollowing with the adze, taking a maximum depth cut of approximately 20mm. I would cut deeper with a thicker seat. The finish on my seat could be smoother, but as I'm showing different ways of shaping, I'll change to the next tool.

9 Secure your seat to the bench – I'm using simple bench dogs. Start cutting across the grain, pulling the tool with a slight twisting motion. Raise or lower your wrists to remove more or less wood. Experiment until it feels right.

10 When you're happy with the basic shape start carefully working with the grain. Complete the chair seat with this tool.



Inshaves or scorp

An alternative option is an inshave (or scorp). This traditional cooper's tool is a curved drawknife. You can still buy inshaves new or search around the second-hand tool sites. Each tool has a different curve, the curve allowing you to get into the bottom of the seat. My favourite is by Matt Sears. One reason I prefer this inshave is the setting of the handles. His is the lower one (below left) with an angle of approximately 120°, whereas the Ray Iles is closer to 90°, which means my knuckles tend to catch.



Ray Iles scorp (top) and Matt Sears inshave (bottom)

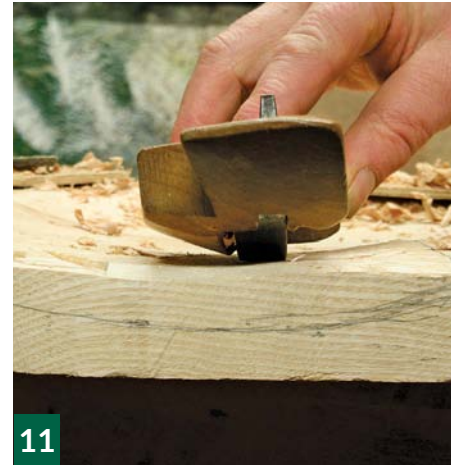


Matt Sears (left), antique tools (middle) and a new Ray Iles scorp (right)

Travisher

In my experience of teaching, the most popular tool for seat shaping is the travisher. It's a side-to-side curved spokeshave made in a range of curves to suit every part of the chair. I find a medium curve is usually fine for most chairs.

Right: A selection of modern, old and home-made travishers. The hammer is used to adjust the blade



11

11 The travisher is very versatile, capable of removing large amounts of wood quickly then, with a change of hand position, of taking very fine shavings. Roll your wrists backwards so the tool is riding on the blade; this will give large shavings.

12 Roll your wrists forwards so you are rubbing on the sole of the tool; this lifts the cut, reducing the depth of cut and giving a finer finish.

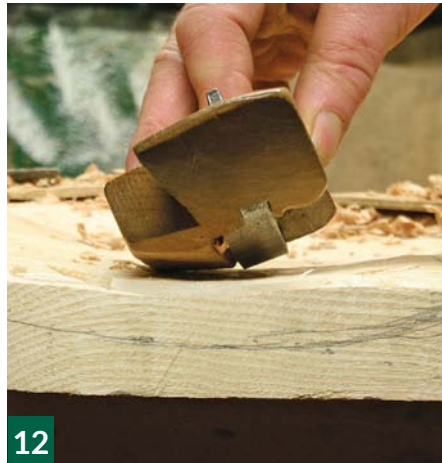
13 It's counter-intuitive, but as you finish each cut roll your wrists forward to smooth and lift out of the cut.

14 Cutting is smoother when you skew the tool as this reduces the effective cutting angle of the blade. In this picture I'm cutting across the grain; the tool is skewed and the arrow shows the direction the tool travels. For a final finish, work with the grain; again skewing the tool.

15 I like a tooled finish, but if it's a particularly twisted piece of grain, finish with a curved scraper and some sandpaper.

16 Now you've completed most of the hollowing, use an ordinary spokeshave to contour the front of the chair. The chair should end up with a deep hollow at the rear of the seat with the shape for your legs gradually reducing in depth until just before the front where it rolls out to a nice curve. Avoid a sharp transition as this may cut off the circulation to the underside of your leg!

17 Plane all flat surfaces then using a travisher, create a sharp line where the flat surface meets the scalloped seat. ➤



12



13



14



15



16



17

18 Now choose whether you chamfer the sides of your seat. Visually, this is very important and will change the character of your chair. This picture shows no chamfer, which gives a heavy looking chair; I prefer a lighter appearance to my chairs.

19 To achieve a lighter look, draw a line parallel to the top of the seat as a guide. Use a combination of drawknife and spokeshave to blend the front of the seat. This lightens the whole 'feel' of the chair.

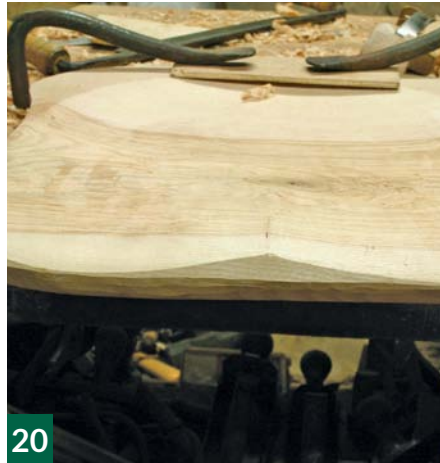
20 Plane the underside of the seat, I prefer to use a travisher as it follows the contours and leaves a nice rippled texture.

21 With the seat now shaped it's time to shape the back bow. Use a drawknife to round off the straighter sides and then refine with a spokeshave. You'll blend into the tenon at the bottom later. Always hold the work as close to the vice as possible.

22 The steam bend makes the curved parts hard to shape with a spokeshave, so use a rasp to round over the top with the bow clamped to the workbench.

23 Smooth the rasp marks with a scraper. I'm using a flat 'chair devil', but a flat scraper will be fine or sand through the grits finishing with some 120 grit.

24 You should now have the seat and bow finished ready for next month's article on drilling and assembly. ■



Peter Wood

Peter has been a skilled green wood craftsman making Windsor chairs and other creations for over 25 years. He demonstrates these skills around the country, gives lectures and runs hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole lathe turner!

Web: www.greenwooddays.co.uk





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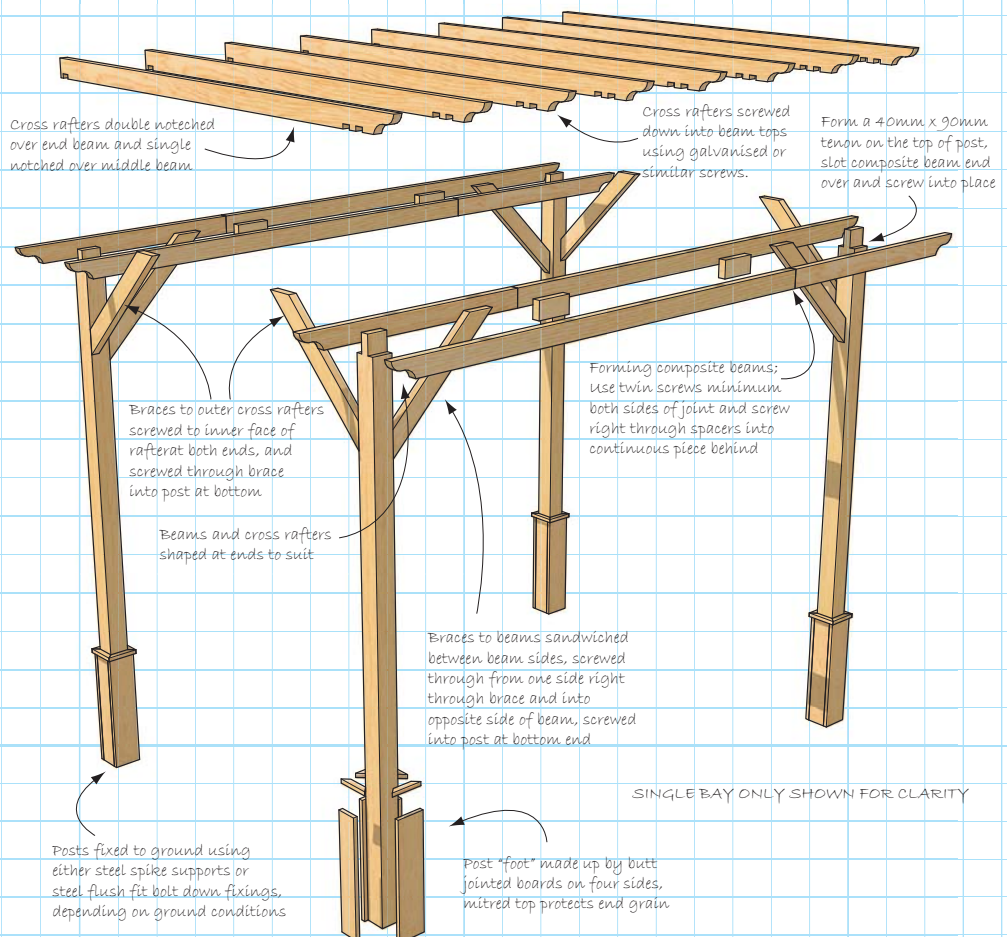
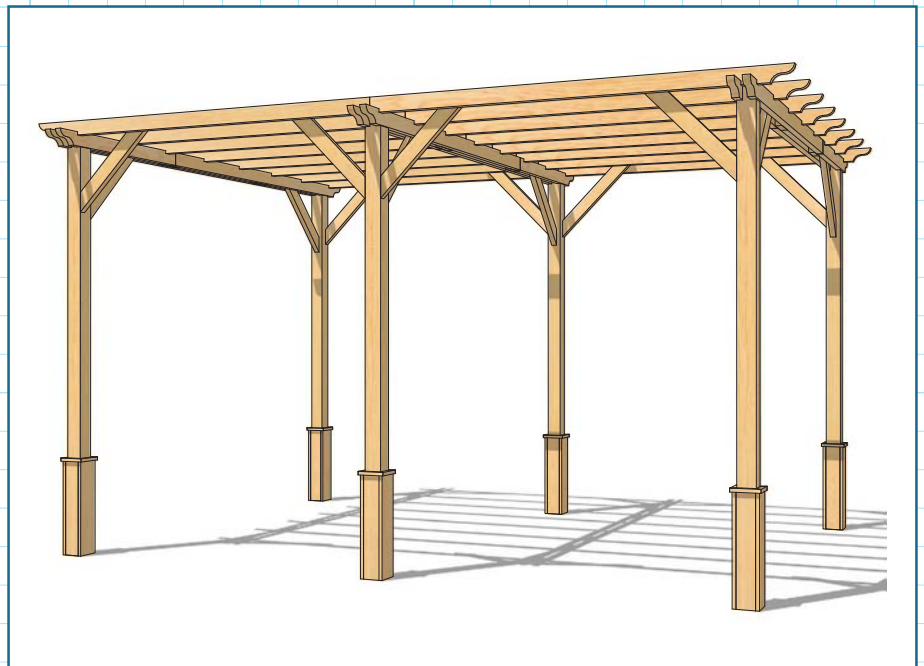
Pergola

Simon Rodway shows you to how to make your very own pergola

A pergola is potentially one of the simplest structures to build, almost elemental in the way it encloses an outside space, and done well can be a delightful addition to the garden, as well as providing shelter from the sun in hotter weather. As with many simple structures, its appearance will depend on the right choice of materials, and the proportions and details of the construction. I've tried as far as possible to make this project from 'off the peg' materials, and I sourced the principle components from the Wickes catalogue, but you may have another preferred supplier. Since you really need to use pressure treated timber designed for permanent exposure to the elements, you are in any case a bit more limited than usual in the section sizes and lengths available. This threw up an interesting problem, however, as the maximum length available for the cross pieces or rafters is 2.4m. This might be okay for a smaller pergola, but definitely won't provide the spans needed for more generous coverage.

Solution

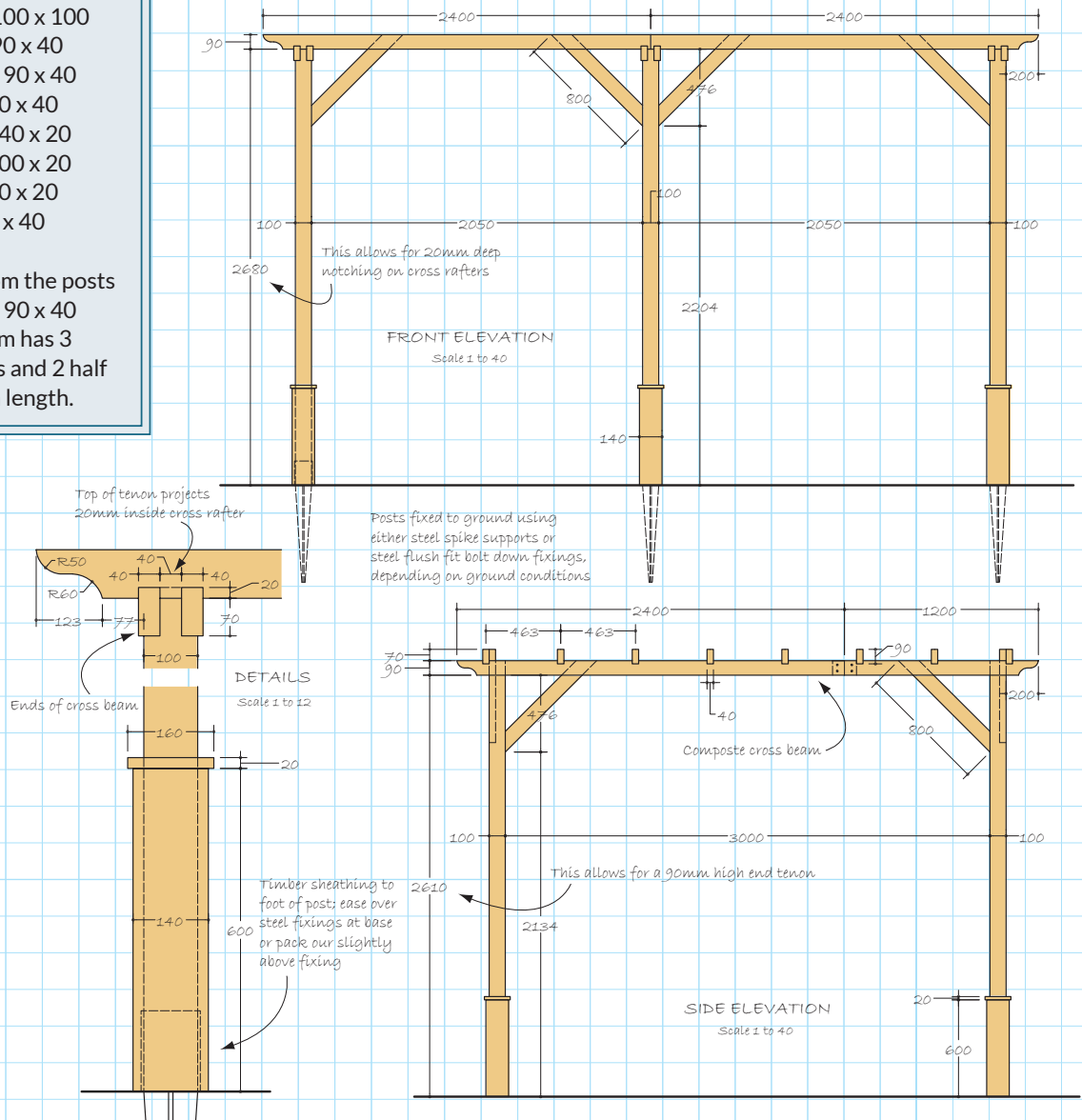
The solution is to construct what is in effect a composite beam, using pairs of one and a half rafter lengths with a spacer or offcut sandwiched between at the joints. It is important that the joints are reversed so that there is a continuous piece of timber on the opposite side of each break line. The rafters are 40mm thick, with a 40mm gap between them, which also allows the braces to be inserted and screwed into place. The final piece in the jigsaw is to cut 30mm housings on both sides of the top of each post, leaving effectively a 40mm tenon projecting on the top. The beam can simply be



CUTTING LIST

Posts	4 @ 2,700 x 100 x 100
Beams	9 @ 2,400 x 90 x 40
Rafters	16 @ 2,400 x 90 x 40
Braces	14 @ 800 x 90 x 40
Feet sides	12 @ 600 x 140 x 20
Feet sides	12 @ 600 x 100 x 20
Mitre top	24 @ 160 x 30 x 20
Spacers	6 @ 200 x 90 x 40

All components apart from the posts and feet are from 2400 x 90 x 40 timber lengths. Each beam has 3 lengths in it, 2 full lengths and 2 half lengths. Braces are 3 to a length.



slotted over the top of this tenon and screwed into place, and then the braces can be added on each side. Obviously, you can shorten these beams, adjusting the additional section as required.

The posts I have used are standard 100mm square fence posts, 2.7m high. If you can, select these yourself as the quality and particularly straightness can vary quite a bit. The advantage of using these is the choice of ground fixing, allowing you to use either the steel spike type support if you're fixing into earth, or a steel bolt down flush fit support if the pergola is located over a hard surface. Neither of these fixings is particularly attractive, however, and to hide them, add protection to the vulnerable foot of the post and also to add visual weight to the post itself, I've clad the bottom section in a simple sleeve of 20mm timber with a small mitred top cover to hide the end grain.

When you set your pergola out, spend a bit of time checking the diagonals as this will really help keep things in line as the construction progresses. I have suggested a shape for the ends of the rafters and beams, but this is a personal preference; you will need a basic template however to get a consistent look. Once the posts are in place, form the three cross beams and slot them over the post tenons at the top, screwing into place with external grade screws (which you will be using throughout), and putting the braces which are cut at 45° into place at the same time. It is important that you fix all braces properly, top and bottom, as these provide the triangulation on the structure which gives it much greater rigidity.

Now all you need to do is to add the cross rafters, which are simply notched to 20mm over the beams, and screwed

down into the tops of those beams. The two outer pairs are also braced to the posts. Add a screw or nail through the butt joint of each pair where they meet to stop them wandering over the years. Finally, add the 'feet' to each post, complete with mitred top and weatherproof; then wait for the sun to come out. ■

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular. For details and to get discount coupons, see website details below.

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The tool is clamped into a holder mounted on the end of a pivot leg; the end of the leg rotates in a conical housing in the horizontal support bar. Grinding of gouges is carried out by rotating the tool from side-to-side while parting tools, skew chisels and the like are laid flat on the wheel at the correct angle. For that classic fingernail profile with swept back wings on your bowl gouges, this is the jig that will produce it with one perfect single facet bevel. An optional additional base and slide for your Tru-Grind sharpening system enables you to use your jig at both ends of your bench grinder. This can be especially useful if you have different grades of stone or you could set up for different types of turning tools at each wheel.

The base is set up to fit the right-hand side of your grinder, but they are reversible to fit either end.

Contact: Axminster Tools & Machinery

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Crescendo PPE ear plugs

PPE 20 is a unique industrial hearing protection solution utilising technology normally associated with expensive custom-made hearing protection. Using filter technology initially designed for custom moulds, PPE 20 is able to provide uniform, or flat, attenuation resulting in reduction of sound levels equally over all frequencies, contributing to natural sound and clearer speech.

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MINI TEST

10
piece set
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10 piece sawtooth bit set + extender

This Chinese-made imperial-sized set range from ¼in right up to 1½in with full saw teeth present on the sizes 1in and above, with maximum speed markings on the shank of 620rpm, ¾in and below are 870rpm. Although imperial sizes they are close to often-used metric

sizes. They have all the correctly machined features you would expect and the teeth certainly feel sharp to the touch. The whole set comes in a flap-open dark finished wooden case with a snap catch. The optional extension bar is clamped using two allen keyed grub screws.



PHOTOGRAPH BY GIMCANTHONY BAILEY

Verdict

This is a budget set of conventional design. The cut speed is adequate when compared to more expensive varieties. One could argue that the three smallest sizes might be served better as bradpoint drills, as the bit heads are so small. Not all the saw teeth reach a full point, so application of a suitable fine diamond hone would help improve them. As always, it's a case of you get what you pay for. If cost is crucial then these would serve you well. Extension bar available for £8.95.

Contact: Turners Retreat

Web: www.turners-retreat.co.uk



Silicone Project Mat

Rockler Woodworking and Hardware introduces the Silicone Project Mat, a flexible, textured work surface for projects. The mat offers quick and easy cleanup, protecting the underlying area from potential damage.

The Silicone Project Mat sheds dried glue simply by cracking it and peeling it off, while wet glue is easily rinsed away. The silicone is also heat-resistant, providing a protective barrier for hot glue guns. The mat lends protection to workbenches, countertops, dining room tables and more – wherever users decide to create their projects.

The Silicone Project Mat measures 380 x 760mm overall and is 3mm thick. The silicone material has no memory, so even if it has been rolled up for a long period of time, it will instantly roll out flat for use. One side of the mat is ribbed to help keep projects in place as well as trapping debris that may otherwise mar or stick to the project being assembled.

Contact: Rockler Woodworking and Hardware
Tel: 1-877-ROCKLER
Web: www.rockler.com

Flexcut knife strop

Although Flexcut call this a knife strop, it can also be used for other edge tools just as effectively. If a blade has already been honed, it will benefit from stropping to polish the steel further and give an extra degree of sharpness. Regular stropping of a blade means less honing, which saves time and effort. It is supplied with a block of Flexcut Gold Polishing Compound for a razor-sharp edge.

Contact: Brimarc
Tel: 0333 2406967
Web: www.brimarc.com



MINI TEST



Makita DML805 corded and cordless worklight

Makita have been playing a bit of catchup with some of their accessories and ancillary kit and this worklight is one example. However, when they do it they do it well. The DML805 has the distinction of not only being a longlife LED luminaire, but also corded and cordless in one unit. It has a rubber bootied switch and is water resistant, important on exposed site situations.

The LEDs can be set at full or half power, although visually the difference is not obvious. On a low battery strength just one LED lights as a warning to change power source. The light emitted is very bright and apparently neutral in colour. It will fit on a stand singly or as a pair on a bracket, both extras.

Verdict

Impressive light output, I cannot vouch for the five hour runtime on a BL1830 Li-ion battery – yet.... There isn't much to dislike apart from the permanent mains lead and the slightly small cable stowage horns. I would prefer a removable Festool type lead connector but no doubt it would compromise it's IP rating. Tripod stand and 2 light bracket GM00001381 available for £62.40.

Contact: Makita
Web: www.makita.co.uk



Naniwa Japanese Waterstones

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The new Naniwa sharpening stone plus a full range of Naniwa economical and combination Waterstones plus accessories are imported into the UK from Japan by Johnson Tools who have a network of retailers across the country.

Contact: Johnson Tools

Web: www.johnsontools.co.uk



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MINI TEST

Crown Tools Cabinet Screwdrivers

This is very old news indeed – screwdrivers for slotted headed screws! In olden days this pattern of driver was pretty much the standard in the workshop. In these modern 'twinfast times' with Pozi heads this type of screwdriver might seem an anachronism, until you try driving out old slot headed screws, then you realise how important it is to have the correct blade width to match the screw head and length to allow enough tractive effort. With tempered high carbon steel blades, beech handles and the all-important ferrule to hold it all together these are nice additions to the tool cabinet.

Verdict

When you need it these are the right driving tool although admittedly not that often. They are well made and finished, my only dislike is the non-roll oval handles still rock on the bench when you put them down, I would put a flat on one face with the disc sander to stop this happening. There is also a six-piece cabinet screwdriver set available.

From
£12



Contact: Crown Hand Tools

Web: www.crownhandtools.ltd.uk

SC4 Chuck 62063

Perfect for the demanding woodturner, being capable of holding large workpieces yet possessing the precision and compactness to handle

more delicate work. This model features an enclosed back with full indexing plate and has pinions driven by a long ball ended hex key to make access easy, even when large work pieces are mounted. This chuck is an insert model (the relevant choice of insert is included in the price) which means it is easily future proofed against upgrades and can be used on multiple lathes, even if they have different spindle threads (additional optional inserts required).

Supplied complete with the woodworm screw, 50mm standard jaws, 2in faceplate and insert to suit virtually any lathe (including M33 x 3.5), this package offers professional performance at an exceptionally affordable price.

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Contact: Record Power

Web: www.recordpower.co.uk

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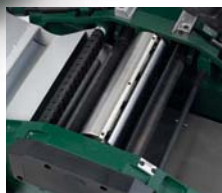
The PT107 is perfectly suited to the discerning woodworker who expects professional and **reliable performance** from a **solid, durable** and **compact machine**. Whilst compact enough for smaller workshops and ideal for serious home or trade users, this machine boasts some impressive industrial features and is exceptionally smooth and accurate in operation. If you are in the market for a good planer thicknesser then check this out at one of our display stockists to fully appreciate the value on offer.

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The Woodworker

"**Top Quality** - This is a very well made machine with full adjustment of both infeed and outfeed tables. This is unusual in a home workshop machine and allows very fine adjustment to eliminate any gouging at the end (snipe)...Results are excellent, chip clearance is good and the changeover from planing to thicknessing is quick and easy."



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Wild versus plantation timber

*“Good timber does not grow with ease.
The stronger the wind the stronger the trees”*

(Douglas Malloch, American poet)

Dr Nicola Davies

examines the qualities of wild versus plantation wood

As you contemplate your beautiful piece of timber and plan precisely how to cut with the least wastage, do you ever think of where your wood has come from? In what distant land has a potentially 200-year-old giant been felled to provide you with the materials for your hobby or career?

Switching from hardwood to softwood

In the UK, obtaining quality local wood is becoming increasingly difficult. Government data on forestry in the UK for the years 1976 to 2014 indicates that hardwoods declined in production from a total of 1,170 green tons in 1976 to only 532 in 2014, while softwood moved from 2,448 in 1976 to 11,431 green tons in 2014 – a substantial increase that can in part be attributed to the rise in demand for paper and paper products.

However, the UK is one part of a much bigger world where forests are no longer being decimated. Indeed, the current consensus from environmentalists is that old growth forests should not be logged, but wood from new growth and plantations should be used instead.

European and exotic timber

It is possible to source sustainable wood from Europe. According to European Official Forestry Statistics, published in February 2015: “Contrary to what is happening in other parts of the world, the area covered by forests and other wooded land in the EU-28 is slowly increasing. Over the past 20 years



Wood is logged from new plantations to preserve old forests

(1990 to 2010) the area of forest cover and other wooded land increased in total by 4.9%, equivalent to an average increase of 0.2% per annum.”

The figures for Ireland showed a 53% increase in forested area over the same 20-year period. This news is heartening as British elm (*Ulmus procera*) is renowned for its durability, size and beauty (Dutch Elm disease has claimed most older elms but young ones are flourishing). Oak (*Quercus robur*) has always been popular and European lime (*Tilia vulgaris*) is best for carving rather than furniture making. The king of wood is considered to be European walnut (*Juglans regia*) with its beautiful burring.

Unfortunately, if you are keen on using exotic timber such as kiaat (*Pterocarpus angolensis*), which comes from South Africa, or Brazilian mahogany (*Swietenia macrophylla*), regarded as superior to mahogany sourced from other countries, it may be hard to come by in countries where deforestation is still taking place. Of particular concern is the logging that takes place in the Amazon rainforests, although many of these trees and their timber are subject to strict control under the CITES Convention. ➤



PHOTOGRAPHS BY GMC /ANTHONY BAILEY

In the UK, the production of quality hardwood has declined

Green tons

Green tons are the measure of felled timber including its water content. By measuring the percentage of water content it is thus possible to calculate the dry weight of the wood, otherwise selling on wet weight could be very misleading for end usage.



Water content is measured in green tons



PHOTOGRAPH COURTESY OF WIKIPEDIA

Beech trees in the Sonian Forest, Belgium



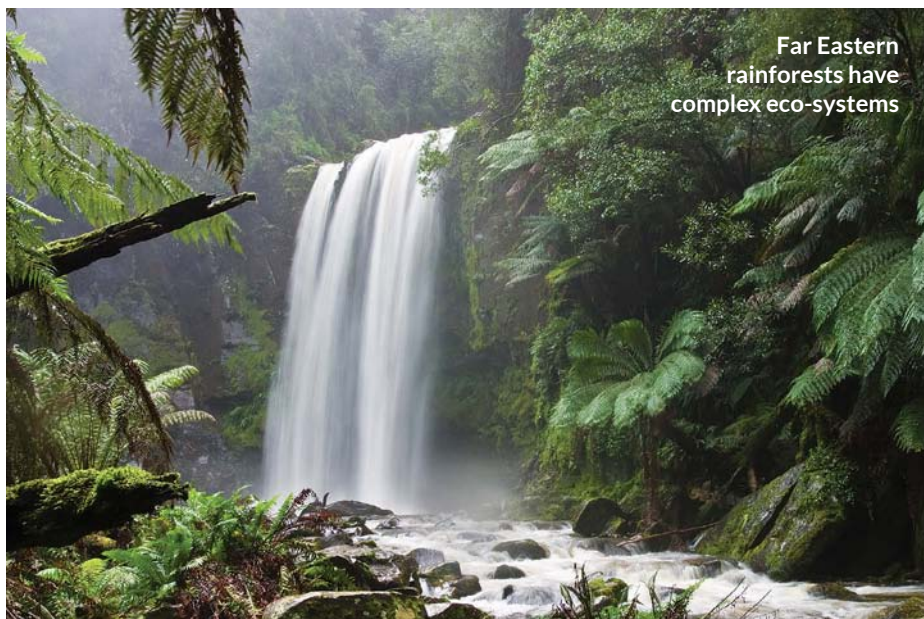
PHOTOGRAPH COURTESY OF WIKIPEDIA

Deforestation has affected the supply of exotic timber



Figured timber

PHOTOGRAPH BY GMC/ANTHONY BAILEY



Far Eastern rainforests have complex eco-systems

PHOTOGRAPH COURTESY OF WIKIPEDIA

It is felt that using hardwood obtained from plantations is better as it takes less time to grow and relieves the pressure of increasing timber demands on old growth forests. Old growth forests in Asia are very slow growing and have complex eco-systems, so to log natural forest would be detrimental to biodiversity.

When it comes to plantation wood, Chris Brown and James Ball, authors of a paper titled 'World View of Plantation Grown Wood', prepared for the Food and Agriculture Organization (FAO) of the United Nations, state that: "Five countries – China, USA, Russian Federation, India and Japan – collectively account for 65% of the global plantation resource." Concerned users of exotic wood should preferably source their supplies from these countries.

Brown and Ball also note that: "A number of European planted forests have reverted to semi-natural status due to the time elapsed since establishment." Craftsmen who require quality wood to work with should make every effort to source their materials from plantations or new growth forests.

The quality of plantation wood

The creation of thin laminates of wood, known as veneers, has been in use for hundreds of years in cabinet making. However, veneers can also be used in high load bearing applications for structural projects. Engineered wood products produced by gluing together a number of layers of veneers to create products such as laminated veneer lumber (LVL) can now compete with concrete, steel and aluminium due to their strength, which surpasses that of natural wood.

The advantages of wild wood

John Paul Sanborn, Consulting Arborist and Landscape Biologist, explains that plantation wood doesn't exhibit much variation in grain. "By definition, species will vary in traits, and the next ordination down the hierarchy is variety, a cluster of phenotype that can be said to have traits distinct from the species norm."

If your wood is sourced from a plantation there is likely to be less variety. Sanborn explains, "There is less genetic diversity within the varietal group. Some cultivars can be clonal,

genetic duplicates." He adds, "Most tree plantations are monocultural, all are the same species, in fact probably the same varietal so that the crop will have close traits. Usually, they are fast growing and have long internodes, which is basically the stem between major branching. Long internodes allow longer boards to be cut, while fast growth gives a faster crop cycle, generating more revenue for the supply chain."

Working with plantation wood is cheaper and more sustainable than natural forest wood. However, "Faster growing means lower ring density, so cedar and redwood, for example, are less decay resistant than a generation ago," says Sanborn. He also points out that some craftsmen feel that strength is compromised by fast growth, and woods move more than they used to.

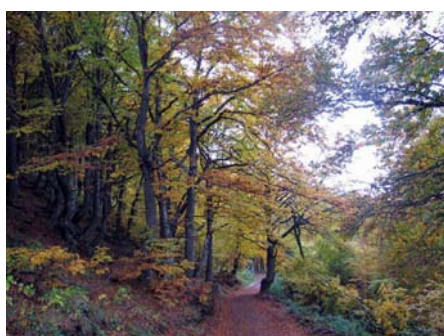
Pests and diseases

The UK Forestry Department is concerned about a number of pests that have entered the UK through various channels. People in search of instant landscaping with mature trees often import these – together



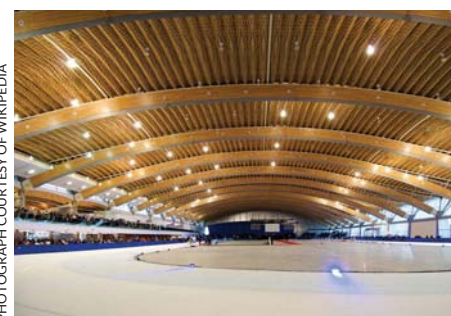
Shipping container of timber

PHOTOGRAPH COURTESY OF WIKIPEDIA



Mature woodland

PHOTOGRAPH COURTESY OF WIKIPEDIA



Veneer wood roof at the Richmond Olympic Oval, Canada

PHOTOGRAPH COURTESY OF WIKIPEDIA



PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Sapling plantation

with attendant pests. The fungus-like pathogen, *Phytophthora ramorum*, damages larch trees resulting in infected specimens having to be felled or killed before the spores carry with the wind and infect other trees. This means infected areas may have to be cleared in order to stop the spread of the disease. Known as 'sudden oak death' the *P. ramorum* pathogen kills oaks in the USA, but fortunately British oak is more resistant and, to date, according to the Forestry Department only a very few have become infected.

Ash dieback, caused by the pathogen Chalara, was discovered in the UK in the 1990s. In a natural old growth forest where there are different varieties of varying ages there is more resistance, but monocultural plantation forests are often placing them at higher risk. The UK Forestry Department advises thinning out the plantations, enabling more light to enter to reduce fungal infections.

Salvage wood

In Britain, the Sitka spruce (*Picea sitchensis*) was introduced from North America. It grows fast in comparison to oaks and will reach maximum timber yield potential after 40–60 years of growth, whereas oaks can take up to 150 years. Versatile and easy to work with, it is ideal for beginner projects.

There is a lack of diversity in plantation wood compared to the 30–100-year-old trees considered 'new growth', where trees have established themselves on previously cultivated land or



PHOTOGRAPH COURTESY OF GMC/ANTHONY BAILEY

Luthiers require prime tone-wood



Ash dieback has a greater impact on monocultural plantations

areas razed by wildfires. A variety of species will usually emerge, resulting in interesting growth patterns as the ring size will depend on how close the trees have established themselves and the climatic conditions.

In plantations, a uniform growth ring will occur in young trees as they are evenly spaced, but the growth rings will become smaller as they mature and compete for light and water.

Sanborn says, "Luthiers (craftsmen who make stringed instruments like lutes and violins) are saying prime tone-wood is harder to find. Craftsmen also mention that interesting grain textures are less available." To overcome issues of grain, salvage wood could instead be used.

Recycled timber

With the movement for preservation of forests gaining momentum, a new niche market has emerged in using salvaged wood from old buildings and structures. Indeed, according to Sanborn, "In the Great Lakes region people are trying to dive ships that sank with old-growth timber loads containing hardwoods with ring densities of 100/inch." He adds, "On the rivers of the US, spring logging



PHOTOGRAPH COURTESY OF WIKIPEDIA

Salvaged wood is a new niche market



PHOTOGRAPH COURTESY OF THE FORESTRY COMMISSION

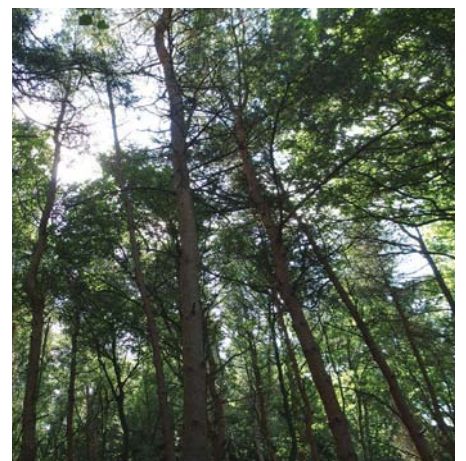
Sectioned log



PHOTOGRAPH COURTESY OF SHUTTERSTOCK

The growth rings on plantation-grown trees become smaller as they mature

means masses of logs are floated down to mills. Some would sink in storms and be stuck in the muck. Swamps are anoxic and northern areas may be cold enough that they are preserved. Some small operators in the south dive for cypress logs that were cut long ago, netting several thousand dollars for large ones." In places like Thailand and Indonesia, wood from old fishing boats is being salvaged and used to create furniture and décor items – often complete with sanded down layers of original paint. A craftsman who produces quality furniture or other products from his timber is creating something of worth that may last for centuries. As the Lebanese artist, Kahlil Gibran, says, "Trees are poems the earth writes upon the sky." ■



PHOTOGRAPH COURTESY OF SHUTTERSTOCK

"Trees are poems the earth writes upon the sky."

Jewellery box



What you will need:

- Rip saw
- Crosscut saws
- Marking gauge
- Cutting gauge
- Narrow chisels
- Coping saw
- Mallet
- Clamps
- Combination plane

Michael T Collins

makes an elegant jewellery box, fitted with plenty of drawers and compartments

From childhood I have been fascinated by boxes. We still have our children's 'treasure' boxes in the attic with countless treasures inside. Jewellery boxes are equally fascinating with their treasures, many drawers, trays and compartments. In this article we will make a simple, handcrafted cherry (*Prunus avium*) box with a single drawer, drop in tray, hinged lid and secret compartment.

Making the jewellery box

1 The dimensions of this box are based on the golden-rectangle, with a width-to-length ratio of about 1:1.6. This box will be about 324 x 190 x 195mm. Rip the board in half using the techniques we have discussed in previous articles. Plane one side of the board flat – this will be the face. Then plane an adjacent edge at 90° – this will be the face edge. Mark these faces. From the face side, use a marking gauge to mark a 10mm gauge line around the edge and plane down to that line – the advantage of using a marking gauge is that the groove it creates becomes a 'stop' visible from the surface.

2 Cut all the pieces to size. Note the even grain of american cherry.

3 For all secondary wood use a species like pine (*Pinus sylvestris*) or poplar (*Liriodendron tulipifera*). Plane a 10 x 3mm rebate at the bottom of all the pieces and on the ends of the



7 Glue the box together making sure that it is square – the base will help with this.

Making the drawer

The drawer will have three very small half blind dovetails at the front and an unconventional through dovetail at the back. This will test your skills! The drawer has sides the length of the internal distance from front to back of the box. This will allow the back of the box to act as a drawer stop. It will also allow for a secret compartment, created by adding a 10mm groove and partition in the drawer sides about 50mm from the back (see step 18). Cut the sides and back out of 10mm poplar.

Dovetail layout

8 We covered creating half blind dovetails in issue 10 of *Woodworking Crafts*, but here's a quick recap. Square all the drawer pieces and set the cutting gauge to the thickness of the drawer side and then using the gauge mark the inside face of the drawer front – this gives the depth of the pins. Now decide on the length of the pins. As a rule I make mine about $\frac{3}{4}$ the thickness of the stock – so in this case, 10mm will give about 7mm long tails. Mark this on the end grain of the drawer front only and also all around the drawer sides.

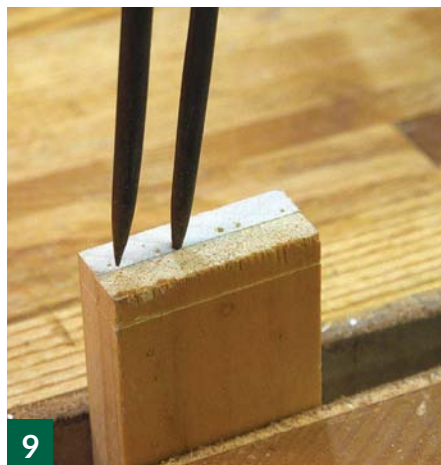
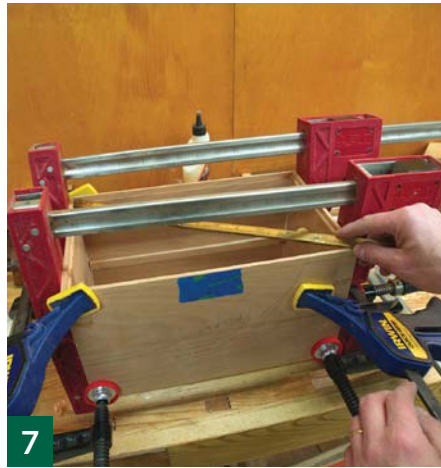
Cutting the tails

9 I like to cut tails first by ganging the parts together – cutting pins first would require all the tailpieces to be custom fitted and would take considerably longer. For three tails, set a pair of dividers to a little over $\frac{1}{2}$ the width of the piece. Take the tail pieces and starting at the edge, walk them across the end grain and then come back from the other side: the holes made will be the location of the waste. You can adjust the size until you have achieved the desired look.

10 Then, gang the sides together and draw the tails on one piece of wood.

11 Saw on the waste side down to the knife mark, making sure you do not go beyond – this error would be difficult to hide.

12 Remove the bulk of the waste with a coping saw. With a chisel placed about 1.5mm from the knife



line and held close to the end for control, chop half way through the wood. Turn the pieces around and repeat from the other side. Finally, place the chisel in the knife line and chop out the last bit of waste. I always do this last chop from the face side so that if there is any tear-out, it will be hidden inside. Clean up the tails.

Cutting the pins

13 These are going to be custom fit, so now is a good time to label all the mating parts with 'marriage' marks. With the drawer front placed



in the vice with the face towards you, place one of the sides on top so that the knife line matches with the ends of the tail. With a very sharp knife or pencil, draw it towards you along each tail edge. Do not draw the knife past the knife line on the end grain.

14 Now, mark the waste and from the inside saw down on the waste side of the lines. Here, it is quite acceptable to saw beyond the knife line. Start by placing the chisel within about 1.5mm of the knife line and chop down.

15 Then, from the end grain, remove the thin piece of wood and repeat the process. You will need to chop down along the side of the tails where the saw could not reach. Cherry is a very brittle wood and chopping too hard on the endpins runs the risk of splitting the wood. To reach into the corners use a smaller chisel. Lastly, place the chisel in the knife line and chop down, adding a slight undercut. This will allow the tail to snap into place without binding. Repeat this for the other end of the face.

16 It's a good idea to add a small chamfer to the inside edge of each tail. This makes for a cleaner joint and a place for excess glue to go. Test fit the pieces and adjust as needed.

Drawer groove

17 A 3mm groove is cut into the front and sides of the drawer using a combination plane so that the groove lies within and at the bottom of the first pin and tail (approximately 6mm up from the bottom).

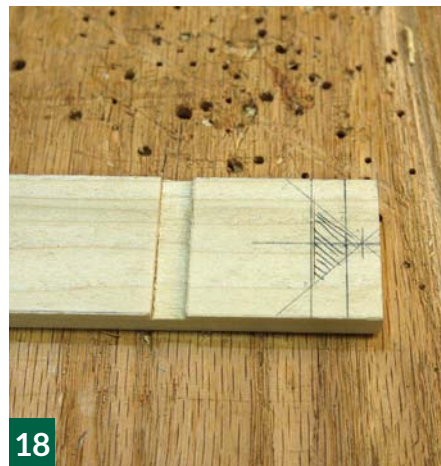
Through dovetail

18 This is a non-traditional dovetail (I'm calling it a French dovetail). With a pencil, mark a line about twice the width of the drawer side from the end of the drawer side. Lay out the joint as per photo 18.

19 Cut out the waste using a saw and chisel.

20 Lay out a single pin and and cut like any other through dovetail.

21 The dovetail might look odd...➤



22 ... but is perfect for the back of a drawer.

Drawer bottom

23 The bottom is a piece of 6mm pine...

24 ... cut and chamfered to fit the groove. Glue the drawer together. Check for squareness and test fit – use a block plane to adjust the fit.

The divider

25 This consists of a 10mm piece of cherry that is held just above the top of the drawer by thin pieces of cherry glued into place – nothing fancy as these will never be seen.

The tray

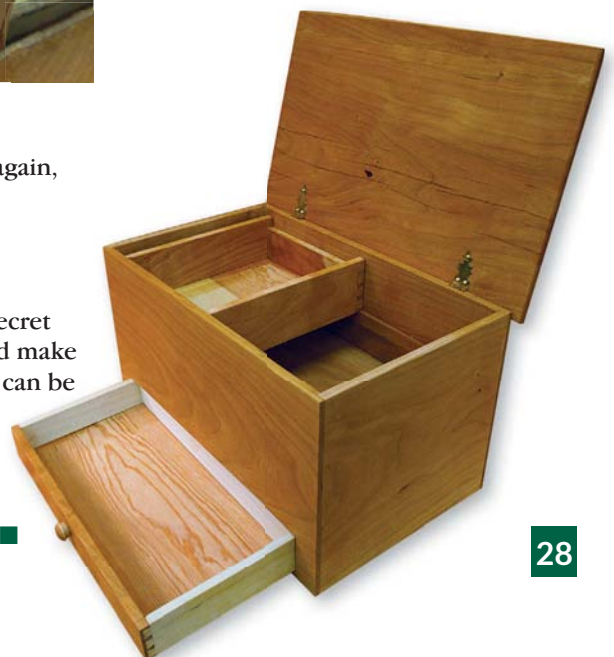
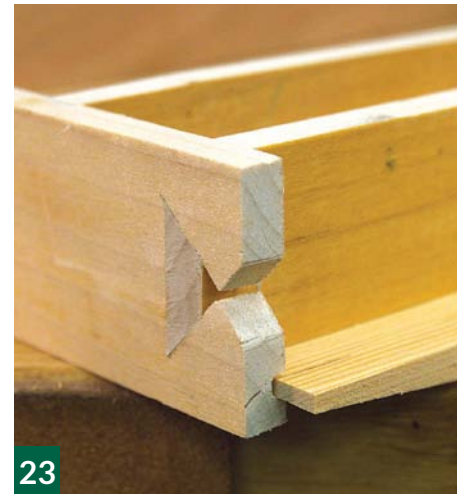
26 The tray is half the width of the box and all joints are through dovetails. The dark patches are where I used some CA glue just to strengthen some flaws in the wood – they will not be seen when cleaned and finished. The 3mm groove in the bottom holds a 6mm pine panel; chamfer to fit.

The lid

27 The lid protrudes 6mm on all sides. Bevel all edges with a block plane – do the end grain first. This way, any tear out will be cleaned up. If your top needs to be wider than the pieces you have, plane two pieces together and then use a rubbed glue joint – make sure the grain matches at the joint. To prevent the top bowing with seasonal changes a couple of battens (grain running vertically) may be glued to the underside of the lid. Attach brass hinges so that the lid acts as a stop.

The finish

28 Tray and drawer are lined with good quality felt and the drawer pull is a simple knob. For the finish I'll



Michael T Collins

British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years, has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.

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be reaching for the Danish oil again, but only a light coating.

Variations on a theme

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FREEHAND ROUTING



The term freehand is slightly misleading, suggesting holding the router with some means of guidance but not fixed in a router table. Overhand might be a more accurate way of putting it, but however you are using a router that isn't table mounted, you need proper control over it if you are going to avoid getting a spoiled result. Here are some tips and tricks to help you steer clear of problems.

One of the most basic is a router T-square either with or without a guidebush slot in the middle. It needs to be made with a fence exactly perpendicular to the board on top. The advantage of a slot is the router cannot deviate off course and is the right way to make plain or dovetail housings for carcass construction. If you do make dovetail housings you need to use a straight cutter first to relieve the strain on the dovetail cutter, which will follow afterwards.



Routers always come with a straight fence, which is usually pretty basic and not necessarily well made or have any means of fine adjustment. The first thing to note is the importance of always machining into the waste area. Using double-sided carpet tape you can add a wooden sub-fence that extends the fence area and closes the gap in the middle for a much smoother dip-free result. You can make things even more predictable by clamping a board or batten alongside the workpiece and flush with its top surface. Now you instantly improve your chances of getting a good result. This still means the router can slide sideways with only one fence. You need to pull the router towards you with the cutter rotation feeding into the wood. I covered this practice in Issue 5, so we need to now look at smarter ways that go beyond using a fence on its own.

The Editor looks at better ways to improve your routing when working 'freehand'



The first thing is whether you can fit a second fence for working on the edge of a workpiece, for instance when machining mortise joints. Unless you buy an expensive brand it is unlikely you can get another fence to fit. So a trick is to make up a simple jig to screw to the router base, which has two posts or dowels screwed into it. When you sit it over the workpiece and twist the router so the posts press against the workpiece, the cutter is automatically centred and will stay on course as long as you keep that twist pressure on.



In Issue 6 I looked at bearing guided cutters. These give very precise control when used in a jig or template, so long as it was made accurately in the first place. Unfortunately, although routers invariably come with one guide bush there may not be any other sizes available to work with it. That can be a problem if you want to make certain size or radius shapes. Fortunately, a solution like the Trend Unibase and their vast range of guide bush sizes can get you out of trouble so long as your router model is compatible.



My favourite way of controlling the router movement, which I have not seen described anywhere else so it might just be unique to me, is the tray jig. It is what it says, a tray sized to fit the router base so the router can travel a set distance in the tray. The tray then needs small fillets underneath to locate it on the workpiece. It is a simple and excellent repetition machining device as the router cannot possibly wander.



If you need to machine radii then you can use a trammel bar that often comes in a router kit, or you can make your own. Even better still if you need to create radii smaller than the router base you can make a simple inboard trammel that screws to the router base. You can reuse it by drilling a further hole with a small machine screw acting as the pivot point.



Although the router is not a drill it can do very accurate drilling of short depth holes. It is set perpendicular to the work surface and you can buy special drill and counterbore bits designed for high speed drilling. You can make a special jig drilling holes in it the exact size of your guide bush. A commonly supplied guide bush size is 16mm, which also matches with 16mm diameter router cutters and drill bits. It is particularly useful for drilling things like shelf stud holes or kitchen cabinet hinge holes.

To make the jig precise you need to mark out carefully before drilling it and a pillar drill is a good way to achieve a line of accurately positioned jig holes. The use of jigs, templates and other controlling devices doesn't stop there but I hope I have given you some ideas about how you can make your routing efforts more predictable and satisfying. ■

Issue 11 March 2016

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A4807

Froe handle making

The Editor was trying to chop up wood, so we all clubbed together and gave him a blade, now all he needed to do was to try and handle it

For every log slice I've chopped up, they need reducing in size and a froe is the perfect way to do it. It is safe because my hands never need to be near the blade and a homemade club is used to beat it into the end of a log until it splits, then you twist the handle to prise the wood apart. Nice and easy does it!

4 A leather apron is pretty essential as I could rest the handle blank against my chest and work right up to the end without fear of injury.

5 The finishing cuts were done bevel up and just taking fine cuts until the handle was more or less round in cross section. ➤

MAKING A FROE HANDLE

1 This is a large brand-new froe blade, the ring is welded to the 'semi-sharp' blade with its steep angled double bevel edge.

2 I had some spare American white ash (*Fraxinus americana*) so I marked what seemed a suitable length where the grain was fairly straight although this meant a bit of wastage at either end.

3 I decided to use my small Ray Iles drawknife to do most of the shaping. Although a drawknife can be used 'bevel up' to do flat surfaces, I find it works better 'bevel down' as it seems to make the cut depth more controllable.



1



2



3



4



5

6 A test fit showed it still needed slimming down. I wanted the bottom end to be fat so the blade would stop against it.

7 I was getting close to a good fit, I originally intended the blade to be removable but I decided against it later. The ring, however, did need to sit down tighter...

8 ... so I used a Morakniv straight bladed tool to slice down at a steeper angle so the blade ring would be a neater fit. A sharp chisel would do pretty much just as well.

9 The fit was good, however as I discovered when splitting; the handle could turn round which I didn't care for.

10 The answer was to cut some very slim ash wedges and bang them home with my newly made club.

11 The wedges were trimmed off with a finetooth Japanese saw. An old-time trick for a loose head – keep the blade in a bucket of water, the wood swells tight and the metal won't rust!

MAKING A CLUB

12 First of all I found a straight branch of the right diameter and cut it off to work in the workshop – very un-green woodworking I know....

13 Unlike Lee Stoffer in Issue 6, who used hand methods to fashion a club, I went straight to the bandsaw and fashioned my own in less than five minutes; lazy but it worked.

14 The wood was very green, i.e. wet, and the handle was fine shaped with the Morakniv blade until it felt comfortable to grip.

15 Time for a test – this was before I locked the blade on with wedges, note how it has ridden up the handle slightly and the way the bark has bruised heavily. The club or 'beetle' is a disposable item and will need replacing after plenty of use...

16 ... and twist, the log separates completely and can then be split into quarters if needed. The combination of a froe and club is an excellent, safe and quick way to split logs either for green working or burning! ■



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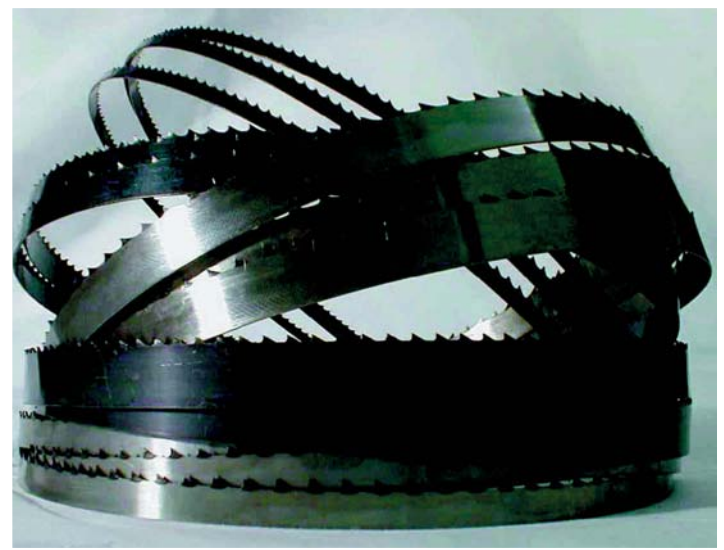
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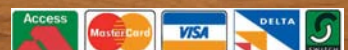
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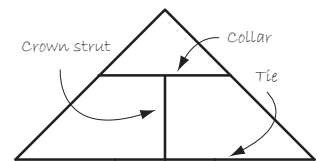
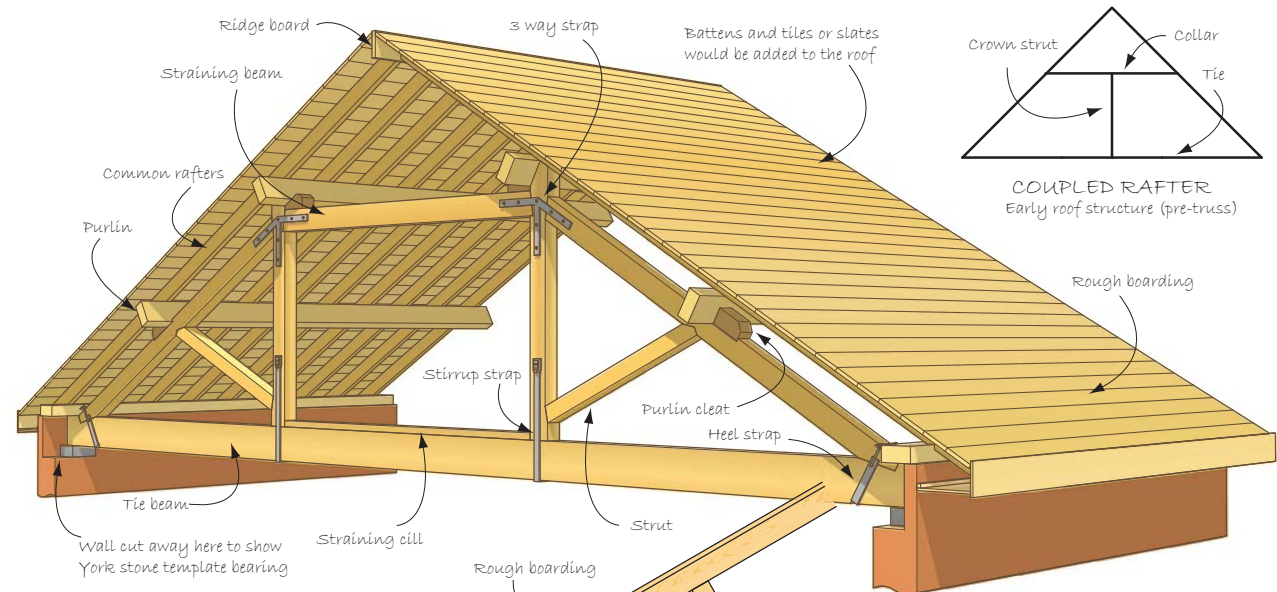


WOODWORKING GEOMETRY

Simon Rodway takes a closer look at roof trusses

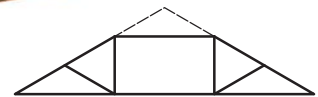
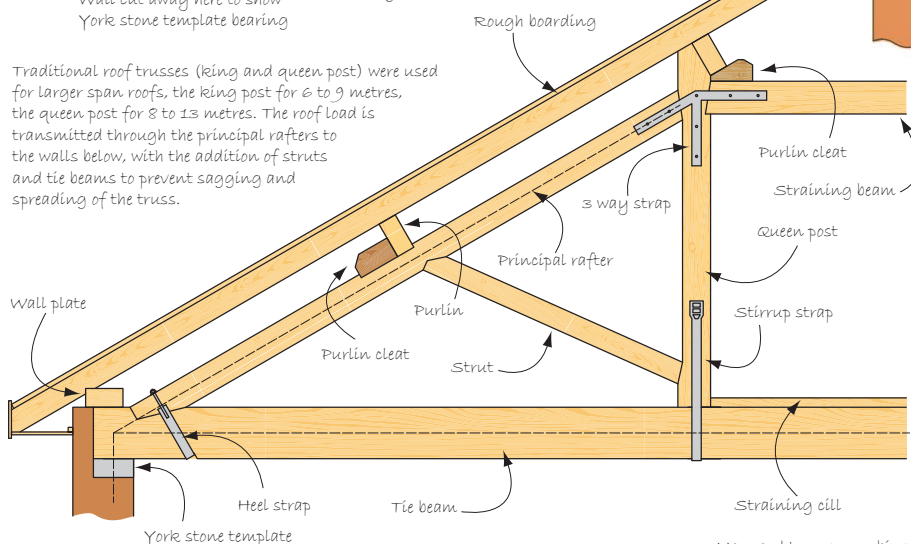
The roof truss is a development from the earliest timber medieval roofs, which were simple coupled rafters with a collar and tie. These roofs were prone to racking along their lengths as the paired rafters were only tied together laterally through tile battens. To increase the span of the roof and add stability, frames or trusses were developed, which were placed at intervals along the roof and supported the common or smaller rafters and, in some cases,

the ridge board via purlins and posts. Trusses such as the hammerbeam became a distinctive and elaborate feature of the internal structure of prestigious medieval buildings such as Westminster Hall in London. Modern timber trusses use the same principles of triangulation, using ties and struts to break the overall span and increase rigidity, but support the roof directly and not via purlins and secondary rafters. ■

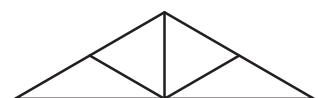


COUPLED RAFTER
Early roof structure (pre-truss)

Traditional roof trusses (king and queen post) were used for larger span roofs, the king post for 6 to 9 metres, the queen post for 8 to 13 metres. The roof load is transmitted through the principal rafters to the walls below, with the addition of struts and tie beams to prevent sagging and spreading of the truss.

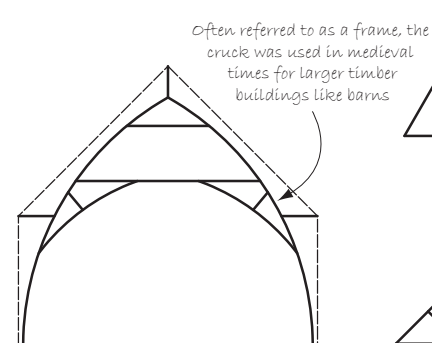


QUEEN POST TRUSS

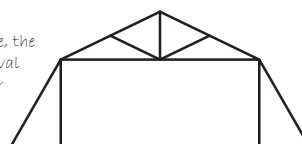


KING POST TRUSS

The king post truss provides support to the common rafters and roof structure via a single purlin on each side and the king post which supports the ridge. The queen post truss uses two vertical posts and carries the load via multiple purlins

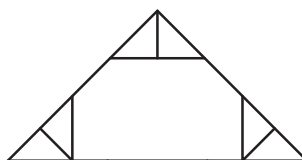


CRUCK TRUSS



MANSARD TRUSS

Mansard trusses combine the king and queen post trusses to create accommodation in the roof space. A variation on this type is the attic truss.

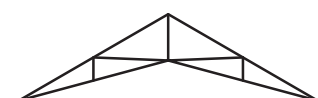


ATTIC TRUSS

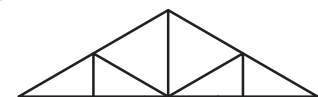
Modern timber roof trusses or trussed rafters are engineered to maximise the potential span of the truss whilst keeping timber sections as small as possible. A wide variety of trusses are now produced and only a few of the basic types, the fink, scissor and howe trusses, are shown here.



FINK TRUSS



SCISSOR TRUSS



HOWE TRUSS

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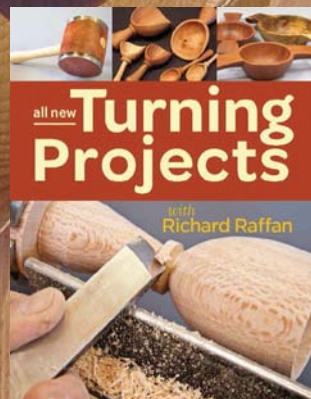
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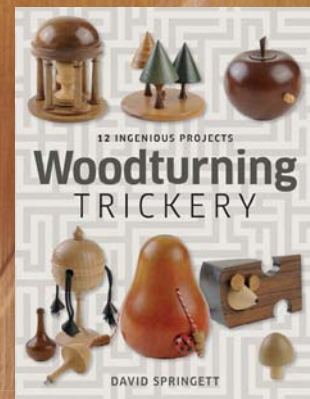
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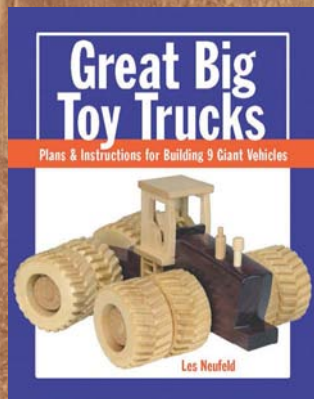
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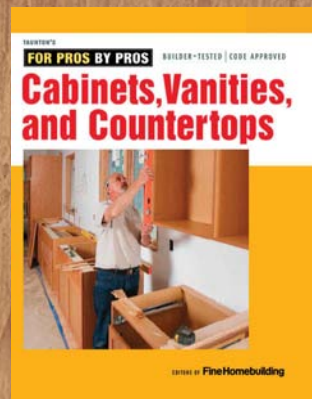
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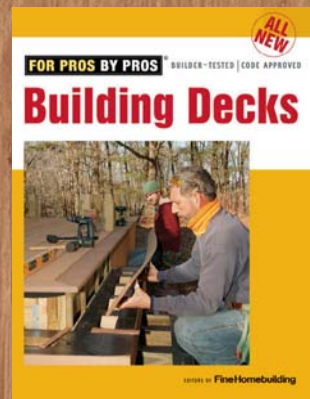
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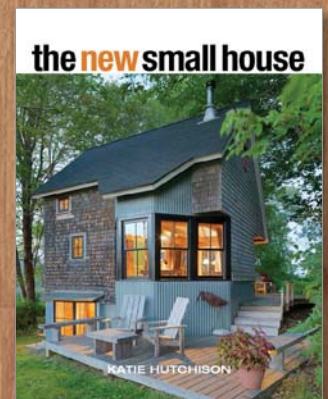
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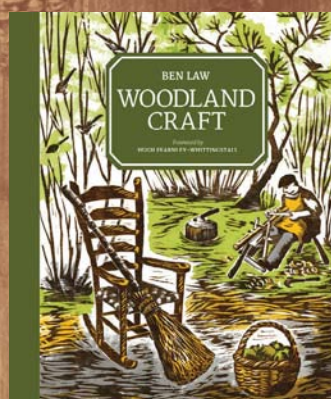
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**STAR
TIP**

MITRE SAW WORK STATION

I hope your readers might find my mitre station helpful. Most of the timber is from my grandson's old bunk bed and the rest is offcuts. The saw is clamped on top of the Workmate and the long wooden beam is clamped in the jaws. The roller and the length stop, ride in a rebate and are clamped from beneath with 6mm threaded knobs. The support tower is only needed with heavy timber.

Howard Boardman



The optional support tower can be adjusted to level the work station wherever the saw is sited



A CLEANING BUZZ

My wife bought a new cordless electric toothbrush, not because the old one didn't work but the rubber switch cover had gone all squidgy and worn through. I grabbed it before it got recycled and put some tape over the offending switch rubber to make it more pleasant to touch and tried cleaning various metal objects, including an old plough plane to see if it would get into difficult corners. I've tried water and washing up liquid and then metal polishing paste as two alternatives, even toothpaste is quite effective so long as you wash it off properly. It's a good way to get to places that are otherwise too difficult to reach. It takes universal fitting brush heads so every time one is discarded from teeth cleaning duties I save it for the workshop!

Robert Waters



An oscillating tooth brush head can clean awkward areas better than by hand alone



A brass bristle brush, engine cleaning fluid and a magnifier help you maintain saw blades

UNKIND CUTS

In the past I have often found that, after a while, a saw blade doesn't seem to perform very well; cutting slowly, burning and producing a poor finish. Not only do I now buy more expensive good quality TCT blades, but I will regularly remove a blade, cleaning with engine cleaning fluid but more importantly inspecting the blade with a magnifier to check the state of the teeth. It's amazing what you find that you can't see with the naked eye. A good clean up can go a long way to explaining why a blade and the work is suffering. Sometimes it can mean sending it to a saw doctor or just a replacement; saw blades don't go on for ever!

Willie Meads

RE-PURPOSED DRAWERS

Years ago I built a wardrobe in our last house, but the time came to leave and we knew the new owners didn't want any of the old fittings so I retrieved the drawers thinking they might have a use. In fact, I needed some workshop storage pretty quickly so I got the local timber yard to cut some 18mm MDF to size and made a couple of wheeled carcasses and using the old runners out of the wardrobe, I was able to make two very useful storage units for lots of different fittings, screws, nuts bolts, etc. I hate waste and wasted effort so this was a perfect answer for sorting out the new garage and workshop.

Maddy Edwards

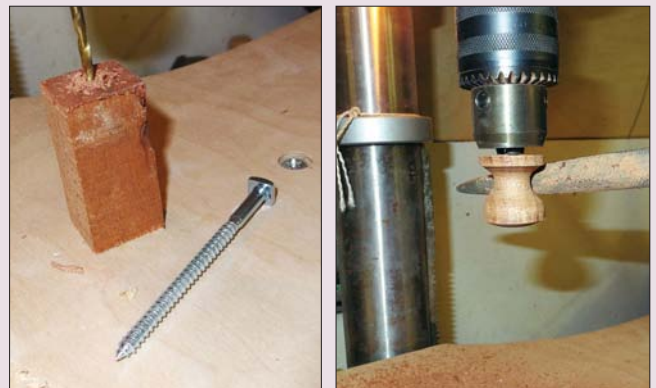


Don't get rid of old drawers, re-carcass them!

TURNED KNOBS

I don't much care for many of the ready-made drawer knobs you can buy in DIY shops and you have no choice of wood, usually pine (*Pinus sylvestris*) or beech (*Fagus sylvatica*). Neither do I have a lathe: I don't have the room, the budget or the will to use one. Instead, I figured that my pillar drill would act a bit like a sort of lathe, which indeed proved to be the case. I had to run it at about 1,500rpm for a reasonable result. I started by threading a bolt into a block of wood, cut off most of it and mounted it tightly in the drill chuck. The application of a wood rasp or two had the desired effect and I made several passably similar knobs using this admittedly crude method. Once I had used the rasps I covered a dowel with abrasive to smooth the concave profile and flat pad for the level surfaces while it was rotating, in all cases applying the tool in the direction of rotation to avoid any surprises with the tool jumping away from me. Quite effective it seems to me and I'll try this one again I'm sure.

Cian Twomey



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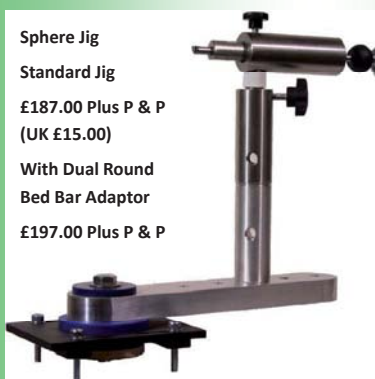
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Back door shutters

From the depths of France, **Wilf Milton** shows us his solution to chill winds coming through the back door

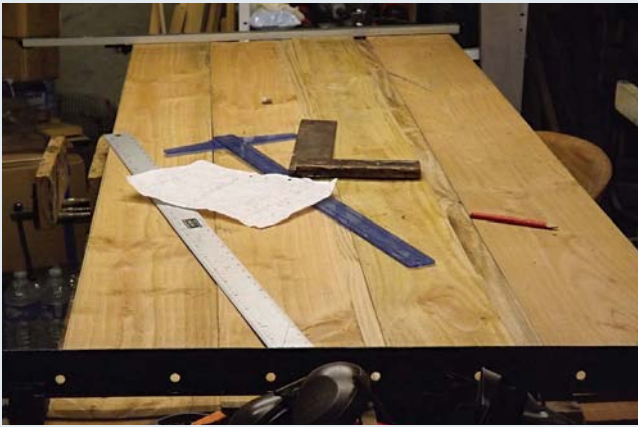


PHOTOGRAPH BY WILF MILTON

The back door is on the north side of my house and the utility room is very cold in the winter. I have already put shutters on the other back door, which have been very effective, so I decided to do the same here.



1 For this project only a rough sketch to work out the sizes of board is needed – luckily I had some free boards come in from my neighbour. The boards were different sizes so I had to butt joint two of them to give the same size on each I used a long tongue glued together, instead of biscuit joints.



2 Edge plane all of the boards on a router table, to a good fit with each other. With all of my boards now at 25mm thick and some slightly cupped, I had to make do with a bit of hand planing as I do not have a planer/thicknesser.



3 Now, saw the top off using a saw guide and then do the bottom. This must be done with more care as the boards are not square, so be sure to mark the planks clearly.



4 Now to fit the hinges. I decided to do this by hand. The idea is to concertina the shutters, so be very careful to get the orientation right. I hadn't done this before, but it went quite well – the fact that I used cheap hinges was an advantage as they bedded into my chisel work well. It's a good idea to do a practice piece, to get the amount of 'letting in' right. Placing the doors on a large bench (if possible) will help and using a vice will be a great help too.



5 Here are the three folding panels in their finished state. The fourth panel is on the right of them, as a singleton. We now need to decide how to fix the doors to the walls.

I decided in the end to modify some traditional French hinges, which allowed the door to sit within the recess, so it cannot be lifted off and making it safer against intruders.

Problems

Now to own up about the errors I made. Rather than let the hinge bolt into the board and weaken the fixing, I drilled into the opposite panel to let the bolt and nut in so that the boards fold flat against each other. The problem was that I made such a good accurate job of fitting the hinges that it was not until I did the final fitting that I realised that the panel with recesses was upside down and back to front! So I had to plug the recesses and re-drill. You cannot see the join and the difference in temperature indoors is amazing.



6 Next, apply four coats of wood preserver prior to fixing. My door shutter design includes a bonus for the cats! We can close up the shutters with one panel still folded back, so the moggies can shelter from the weather. ■

Wilf Milton

At 73 years old, among other things Wilf is a retired TV engineer, grandfather, wheelwright and carpenter. Wilf only discovered later in life that he held a passion of woodworking and, now a self-proclaimed 'tool junkie', writes from his French farmhouse. Wilf has also been into photography since very young.



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QUICK MAKE

Key rack

The Editor makes a quick and useful key rack, perfect for a gift!

Sometimes you just want a quick and yet satisfying solution to a problem. So we came up with the idea of 'quick makes', which don't need lots of tools or skill but look good and can even be given as presents. What's not to like?



PHOTOGRAPHS BY GMC/ANTHONY BAILEY



1 First of all you need to decide how many hooks you are likely to need. Keys seem to breed, popping up from nowhere. Choose some nice looking hooks at your DIY store like these solid brass leaf design pattern. The wood needs to be sawn long enough to get the hooks spaced correctly. Glue and clamp two pieces together to create a simple angle shape and leave to dry.



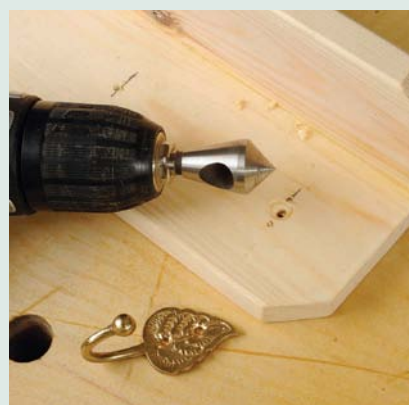
2 Now mark across each open corner with a sliding bevel at 45° so the corners can be cut off by equal amount. This will make it look more pleasing once it is finished rather than plain square corners. Use a fine tooth saw and wooden bench hook to sit the workpiece on while sawing the corners off as neatly as possible.



3 Take off all the sharp edges using a block plane. It only needs a couple of strokes to give a nice finish.



4 Now drill small diameter holes for the hooks. It is important not to make the holes too big or the screws won't go in tightly. Make sure you have even spacing by measuring the distances and lightly marking the wood first.



5 You will need to fix holes for mounting the keyrack on the wall. This can be done directly behind the two outer hook positions so those holes are hidden once fixed to the wall. Use a countersink to bury the heads in the wood.



6 Now apply your desired paint colour. There are several ranges of chalk paints which look really nice on projects like this. You only need a small tin as it should cover in one coat. Drill and fix the key rack in your desired position. If you are fixing to a wall you will need to use a masonry drill and plug or use the correct fixing type for a stud wall. A simple and useful project that looks attractive. ■

Woodland ways



That old chestnut'★

Old sweet chestnut trees can be found all over the UK

★ **Definition:** something so often repeated it has become tiresome

Woodland expert **Gary Marshall** looks at an old favourite – the sweet chestnut

I briefly mentioned the sweet chestnut (*Castanea sativa*) in *Woodworking Crafts* issues 5 and 6. I'm about to mention it yet again but I hope this article isn't tiresome! As always there's so much more to say on this useful species.

The most famous old chestnut I know of is the Tortworth tree in Gloucestershire (see photo right). You have to get close to appreciate this amazing tree as it's surrounded by growths from its roots and old detached bits of trunk. It was an amazing sight around 30 years ago, when I visited, being a gnarled, contorted veteran, surrounded by metal fencing. It's around 1,000 years old and, I read, still putting up fresh growth.

Sweet chestnuts – not to be confused with horse chestnuts (*Aesculus*

bipocastanum), which are from a different plant family – can grow to exceptional girths, especially in established parkland or old hunting grounds. There are fine examples in the Royal Parks, especially in south London's Greenwich Park.

Other old examples can be found in locations all over the UK including locations as diverse as Cumbria, Ripon, Norfolk (e.g. Felbrigg Hall), The Wye Valley, Somerset and Sussex (e.g. Petworth Park). Old and maturing chestnuts often have spiral twisted trunks and deeply fissured bark, huge limbs and, even when dying back, the horny hard wood remains intact for many decades.

Uses for sweet chestnut

So it can be seen the sweet chestnut has incredible regenerative powers

as well as longevity. These properties have been well exploited by woodsmen and foresters. When regularly coppiced the sweet chestnut stools throw up strong, tall, straight stems – perfect for hop poles. And so, in Kent,



PHOTOGRAPH COURTESY OF WIKIPEDIA

The Tortworth tree in Gloucestershire

PHOTOGRAPHS BY GARY MARSHALL UNLESS OTHERWISE STATED



Chestnut fencing is ideal for use with livestock

PHOTOGRAPH COURTESY OF WIKIPEDIA



The Woodland Enterprise Centre at Flimwell, East Sussex

Surrey, Sussex and in Herefordshire and Worcestershire large areas of woodlands were planted with sweet chestnut from the mid-1880s. These were often on sandy ridges – it prefers lime-free, well-drained soils.

Many of these single species woods are still harvested today – not many for hop poles, but to meet the demand for cleft post and rail chestnut fencing, rustic outdoor furniture, chestnut paling and wire fencing posts, strainers and bracing poles. These natural, untreated woodland products can last for many decades, especially if set in rammed earth – not concreted. Post and rail fencing is ideal for paddocks and other stock friendly boundaries usually being constructed in 9ft bays. Visually, too, chestnut post and rail is often considered to be more in keeping than wire and metal field furnishings.

Coppice rotations

Well grown sweet chestnut coppice is a reliable source of useful produce:

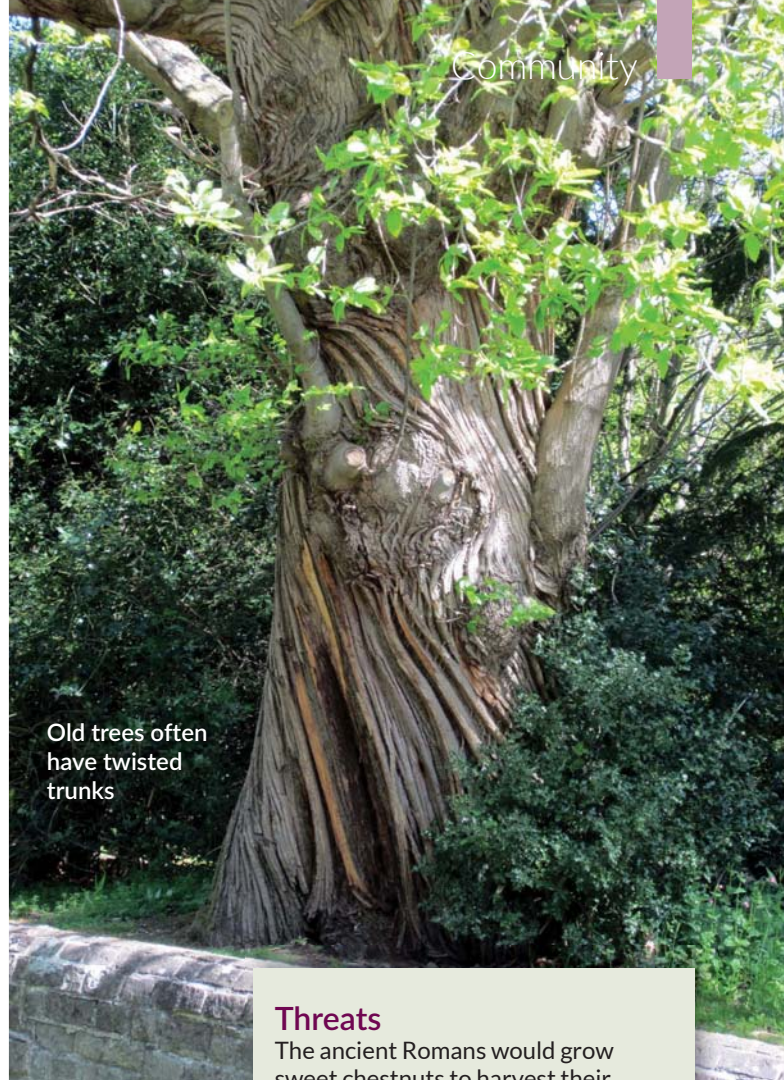
- 2–3 years – walking sticks
- 5–7 years – bean poles
- 15–20 years – fencing materials

- (stripped or with bark)
- 50–70 years – planking

With improved finger jointing and gluing techniques the timber construction industry has been able to make good use of smaller chestnut timber. A good example of this is the curved gridshell building at The Woodland Enterprise Centre at Flimwell, East Sussex, built in 2000. This houses the High Weald AONB Unit and part of Plumpton College, where many courses in woodland skills are held. Visit www.plumpton.ac.uk, www.woodnet.org.uk and www.highweald.org for more information. ■

Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations. www.greenwooddays.co.uk



Old trees often have twisted trunks

Threats

The ancient Romans would grow sweet chestnuts to harvest their nuts. Stems from the best nut-bearing trees are still sometimes grafted on to slow growing rootstock for this purpose. Unfortunately in Warwickshire, sweet chestnut blight (*Cryphonectria parasitica*) first reared its destructive head in the UK in 2011 in a young, planted nut grove. Like many trees these days sweet chestnut is vulnerable to disease. The blight endemic in North America has been known in Europe since 1938. It causes bark cankers and death and is a notifiable disease – for more information visit www.forestry.gov.uk/chestnutblight. Affected trees are destroyed – roots and all. There are signs, though, that the strains of the disease in Europe are not as virulent as in North America.



Unfortunately, the sweet chestnut is vulnerable to blight



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Small space woodworking

Shelves

We told the **Editor** to 'shelve' his latest project – such a shame he takes us so literally...



PHOTOGRAPHS BY GMC/ANTHONY BAILEY

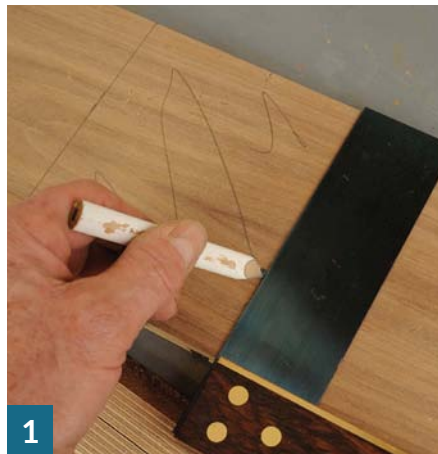
Some shelves need to be open, such as for books, but other items are safer if they cannot fall off accidentally (especially if someone bangs a door in a stud wall and it vibrates every time). We have a collection of carved wooden elephants that have a habit of 'walking' every so often. So, here is a design that looks good, can be produced in multiples and placed asymmetrically on the wall, but also ensures nothing falls off.

1 This project is made from throwaway offcuts, so no cost or wastage is involved. Take a piece of 12mm thick board, cut it to width with a handsaw and plane the long edges smooth, checking the width remains consistent.

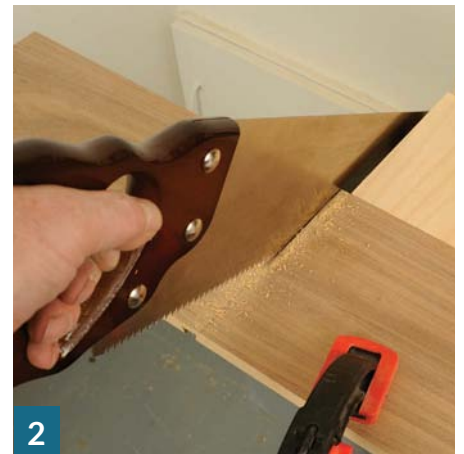
2 Then mark and crosscut two matching pieces for the shelf ends using a try square or engineers square. Clamp together in a vice so they are lined up then plane the ends smooth.

3 Use a sanding block or pad to clean up the edges and 'break the corners', i.e. a very light sanding to remove any sharpness or ragged bits.

4 The ends need a curved shape. Because it is quite a large curve you need to find something that will bend smoothly such as a steel ruler. However, do bear in mind it could permanently distort it and it may not go back to its flat shape. ➤



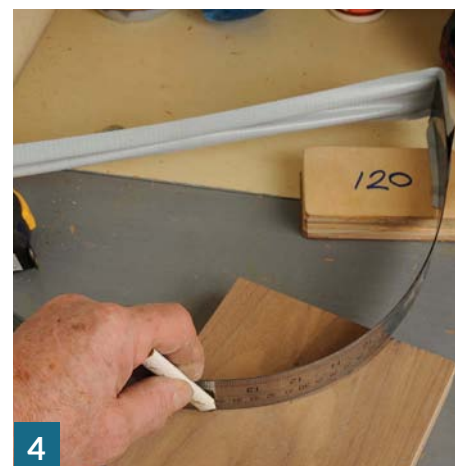
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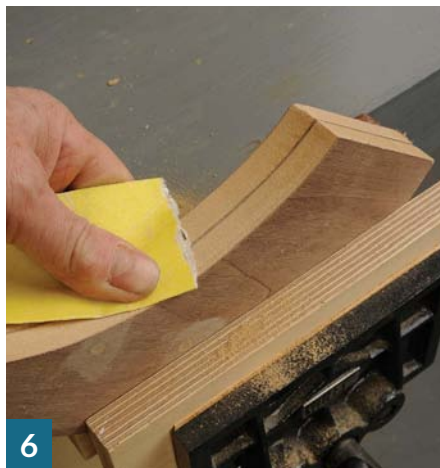
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5 Use a coping saw to follow the curve and stay on the line rather than one side, so there isn't too much cleaning up of the shape to be done.

6 A good rub with medium abrasive paper should be enough to give a smooth result with MDF. Solid wood may need more attention to get a good finish.

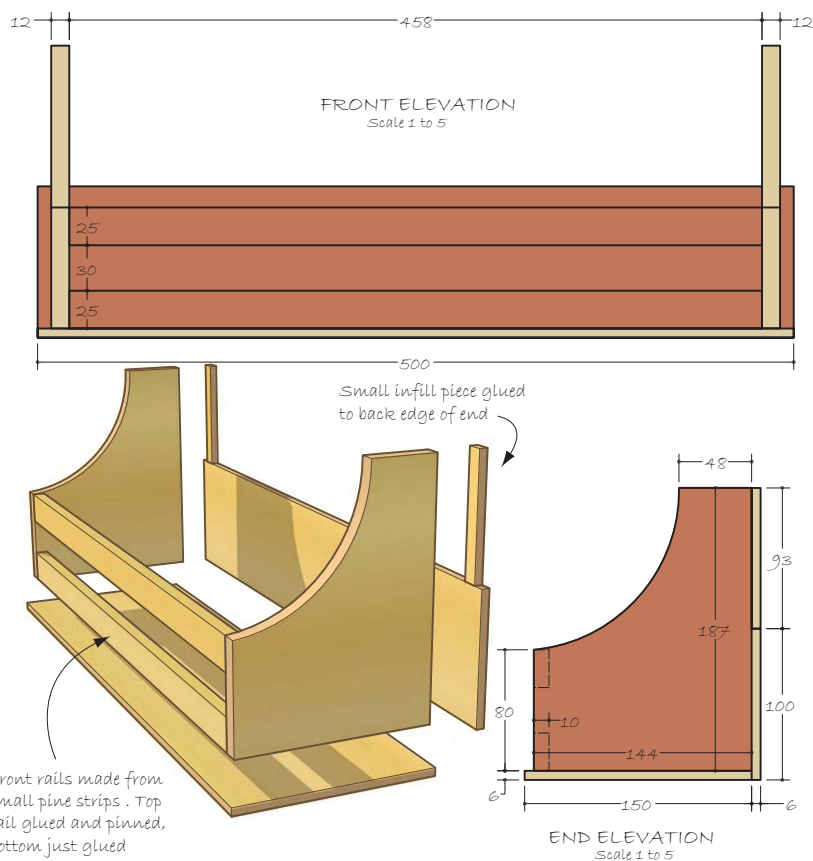
7 If you use reclaimed 6mm ply or MDF with emulsion paint on, for the back and base, you may be able to scrape off the worst of it using the long side edge of a chisel as most chisels come with quite sharp, square edges that will work like a scraper.



8 The board surfaces need a good sanding to give an even surface without rounding over any edges in the process.

9 The back of the shelf needs to be pinned on, but it needs to hang down enough to cover the bottom panel when that is fitted on. Holding the base in place allows you to check the overhang.

10 One end is pinned on with panel pins and the panel overhanging at the end by about 6mm. Ditto then with the other end using the surface behind to press the shelf against while nailing.



11 The bottom panel needs some dabs of glue to bond it to the back panel. Slim panel pins and a very good aim are necessary to fix it without the pins breaking out.

12 Now two slim pine strips are needed along the front of the shelf. Mark the distance between the shelf ends and draw across with a try square. Cut with a fine tooth hand saw using a bench hook to aid the sawing process.

13 Glue and pin the top rail in place. All pins will get painted over so it doesn't matter if they are visible.

14 While pinning, place a piece of wood under the other end for support as the base back boards overhang and don't help its stability.

15 The bottom rail is simply glued; no pins as the long edge with glue on will hold very firmly. You will need several spring clamps to keep it in place while it dries. Note the deliberate overhang at both front and sides.

16 By fitting the back panel on, it will leave a gap above, behind the bracket. This needs to be filled with a small piece of the same thickness ply, glued and taped in position until it dries.

17 You can buy small cans of finishes like this Rust-Oleum chalky finish for the body colour and then complete the effect, in this case using their metallic gold on edges to give a two-tone look.

18 Your final piece should look something like this. ■



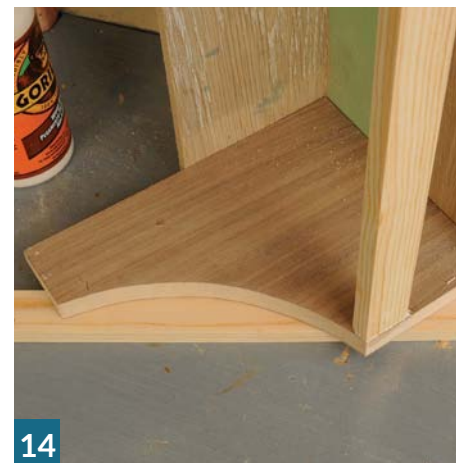
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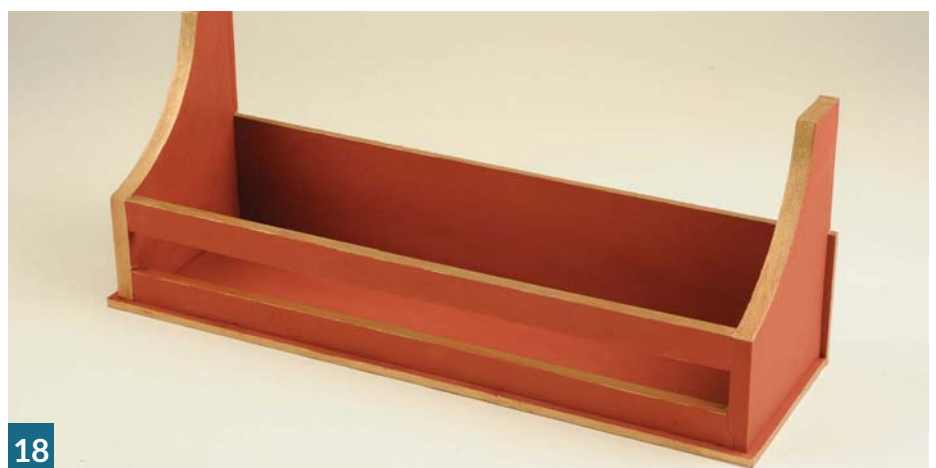
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17



18

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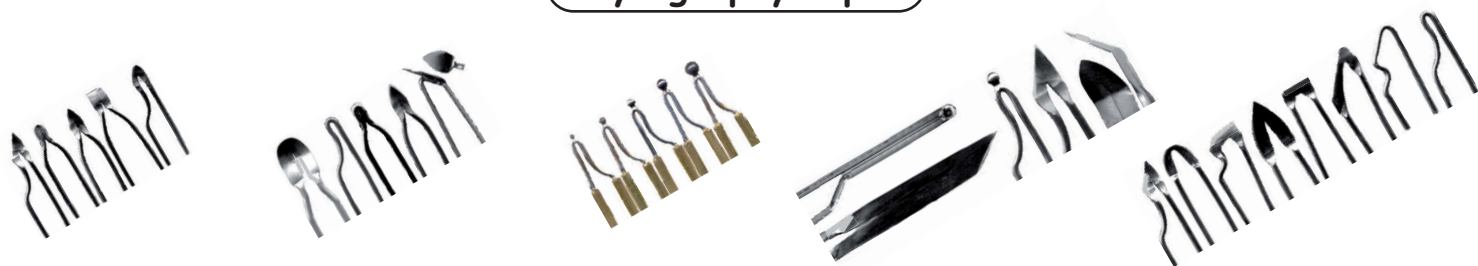
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STAR
QUESTION

NEST OF TABLES

“ I have a slightly unusual nest of tables of 1960s vintage. There are four small quadrant tables, which pull out from under the large one. They haven't had much use so they are in good condition, but the large table has some very thin veneer lifting and a small missing piece and the top looks and feels slightly rough probably from damp objects put on it.

What is the best way to repair it please? ”

Audrey Wagstaff

Anthony replies: The first thing to note is the need to avoid doing anything that could cause further damage. The age of it makes it slightly awkward to deal with because modern glues and finishes and machine sanding have been used and restoration of a piece of this vintage was never allowed for. Here are some key points for a restoration 'pathway'.

Modern glues set and cannot be reversed. The lifting veneers appear very thin. So the safest way to reglue them is to use a liquid hide glue instead of PVA. The old modern glue probably won't react with it. Do the gluing first, if necessary using a large bore hypodermic to insert the glue or lifting the veneer up with a knife edge.

Glue first and clean the surface after so no contamination occurs between the veneer and the groundwork. Start by using wax cleaner and 0000 wirewool so you can remove all wax and dirt, then

wipe off until the surface is clean and free of muck. Now test the finish to see what type it is. French polish will 'give way' to methylated spirits. Try rubbing a meths damped rag in a small area. The chances are it will be some form of lacquer which won't react to meths.

Once you know which sort of finish it is, you can then do the small repair with a little piece of veneer and some glue, then rub the whole top over gently with 320 or 400 grit lubricating paper to remove the slight roughness you have described. Do not let the abrasive cut through the existing finish as it will cause too much damage.



Lifting veneers and a missing fragment



Using readymade hide glue under the repair then pressed down firmly



Testing to see whether the finish is French polish or cellulose lacquer – apparently it is lacquer as the reaction was minimal



Using a foam-backed fine abrasive to take away the roughness where the grain has raised slightly



Applying a button polish using a traditional 'rubber' working in circles, figures of eight and finally straight strokes



The unusual but careworn nest of tables



ANTHONY BAILEY
Editor,
Woodworking
Crafts Magazine



MARK BAKER
Group Editor,
GMC woodworking
magazines



DEREK JONES
Editor, Furniture
& Cabinetmaking
Magazine

DRIPPING WET

“ I’ve made a treated softwood window frame, primed it, fitted the glass using silicone and glazing bead to retain it. It all looked fine until the colder weather, then condensation started forming that looks unsightly, but I’m worried might soak into the frame and damage the wood eventually. Is there some sort of ‘proper’ secondary double glazing that would cure the problem? ”
Reg Scardersfield

Anthony replies: This is an all-year-round question, because the solution really needs to be thought about at the making stage before cold weather makes an appearance. Even proper double-glazed windows don’t prevent condensation although it is better than single glazing, triple glazing is best of all. I made a similar mistake when I fitted an oak (*Quercus robur*) fanlight to my cellar (living room in fact). I got it done in time for the seasons to change, but not soon enough to deal with the condensation problem. Around the house I’ve used secondary glazing over double-glazed windows, effectively creating triple glazing apart from this fanlight. You can get a stick-on plastic moulding with a cover strip that holds polycarbonate sheet in place. I usually fix it with a flat headed nail discreetly in the moulding in case the stick-on foam backing fails – based on experience. More recently I’ve found it easier to obtain magnetic double glazing strip. This is quick to fit although you need to get it right first time or it gets damaged. You cut the self-adhesive magnetic strip to length and stick it around the frame then cut and stick the treated



The coated steel self-adhesive strip in position, the magnetic strip is stuck to the polycarbonate sheet



The fanlight ready for more cold condensation forming weather

steel strip around the edge of the polycarbonate sheet. Make sure both the glass and the polycarbonate are clean and just place it against the frame and voila! It holds firmly, but you can remove it for cleaning or window opening.



Doors closed in wet weather, open in dry weather to air the stack so it dries properly

WHEN DO I CHOP WOOD?

“ I’ve read your fascinating article about chopping wood in the last issue of Woodworking Crafts. Can you tell me if there is a good or best time of year to chop up wood ready for drying? ”
Olivia Newsome

Anthony replies: I’m glad you liked the article. While it isn’t strictly woodworking, it seems to be a big thing at the moment, as more and more people use woodburning stoves in homes or workshops. There isn’t a simple answer to your question; trees get felled all the year round for various reasons so you have to work with what is available at the time. However, wood should be split (not chopped) when it is still green i.e. wet with sap. It is much easier to deal with as the fibres part more easily than dry wood which becomes dense and hard. The next thing is proper storage. Do not enclose a log stack as it will stay damp and start rotting and take too long to dry in any case. An open neat stack that sun can reach and air can blow through, will do the job properly. Take pride in creating a neat stack of split logs; they must be split because bark prevents drying.

It needs to be off the ground to prevent damp and improve airflow, pallets are good for this. Cover the top to keep the rain off and have a drop-down tarpaulin for wet days but lift it on dry days. Split logs dry quicker than you might think if the conditions are right, often after a few months.

Don’t try to burn wood still wet with sap, it wastes lots of heating energy and can damage your flue.

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Bean...



...to heart

John Swinkels makes a 'magical' bean-to-heart piece

I enjoy making things for the grandchildren because they are very expressive with their appreciation and affection. The piece of wood that looks a little like a bean and then 'magically' becomes a heart was one of those gifts that they then use to entertain their friends. It was inspired by images of an illusionist locket that some artists/woodworkers post on the internet. Some of those are truly awesome, as they have space inside them for tiny photos of loved ones. The one here is, by comparison, very basic but provides some enjoyment in both the making and giving.

The following series of photos shows how I made a few. I used what is called Mexican pine (*Pinus oocarpa*) at our Woodturners Club. It may be the wood from a cypress tree.

The wood has a warm colour, and trapped knots add to the beauty of the material. I ended up with four finished objects, two bean-shaped ones and two heart-shaped. The brass pin that

passes through rare earth magnets in the centre of both parts, keeps them aligned. The magnets have a hole in the centre. Two small magnets 20mm from the central one keep the parts neatly together. It is quite difficult to separate the parts as the magnets are very strong.

1 This is one of the pieces of Mexican pine that I used. It measured about 300 x 130 x 35mm. I dressed it on the club's thicknesser to 25mm thickness and made sure one edge (not the sapwood edge) was straight. It will become two bean/hearts. The second board will also become two bean/heart ornaments. From both boards cut strips 45mm wide. The spare bit will also play an important role in locating the position of the small magnets.

2 Machine a spare bit to an even width and then drill two 3mm holes on its centreline, 20mm apart. Let us call that part the 'assistant'. On one of the small boards (that was to become one half of two bean/hearts) drill a 3mm hole. Next, use a spare 3mm drill bit in the assistant and insert that into the drilled hole of the small board. Now you can swivel the assistant first to one side as a guide for the hole that

Things you will need

- Jointer-thicknesser
- Disk sander
- Bandsaw
- Round-over router bit
- Drill bits – 4.5mm, 5mm, 8mm and 15mm
- Drill press
- Abrasives

is to be 20mm from the central one and next to the other side. This way, the three holes will end up on the centre line and 20mm apart. This is a key step to get magnets exactly in line on the two boards that will become two bean/hearts.

3 The outer two of each set of three holes need to be enlarged to 8mm diameter and about 7 or 8mm deep. Push and tap the small 8 x 6mm cylindrical magnets into the holes of one board, making sure that they all have the same polarity arrangements. Do this by pushing one in and stacking the other three on top of it. Next, pick up one with the tip of a straight edge screwdriver and push it in the next hole, and so on. Another four magnets can be seen sitting on top of the inserted magnets. In turn, pick up each of these, turn them over and insert in its partner board.



4 Enlarge the centre holes to 15mm diameter and 6mm deep. The small magnets should be a tight fit. These larger magnets could come out and need a few drops of superglue poured through the hole in the centre to secure them. Note, the polarity must be such that the two boards attract and do not repel each other. Notice also that I drilled one hole too many – a mistake!

5 The hole in the centre of the larger magnets should be about 5mm. Use a 4.5mm drill bit to deepen the hole to about 15mm. Fortunately, I had a brass rod that was a neat fit in that hole. It will help to get the two halves of the bean/heart exactly aligned. To cut out the shape, make a simple stiff paper template of the desired bean shape. It is 105 x 40mm. The ends are semi-circles. On it mark and punch the position of the three magnets. Line up the template and blanks. Hold the bean/heart-to-be tightly together by the magnets. Cut them out on the bandsaw and dress the pieces smooth on the disk sander.

6 The heart now looks quite nice, but with a little more shaping could perhaps have become even more realistic.

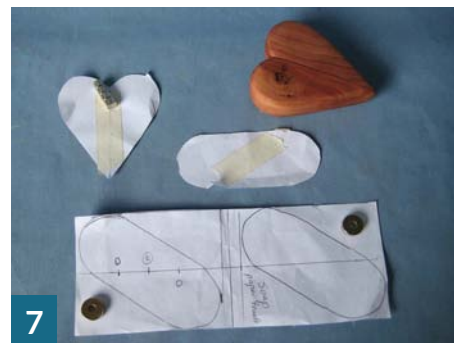
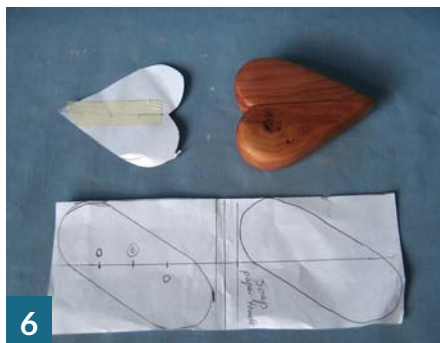
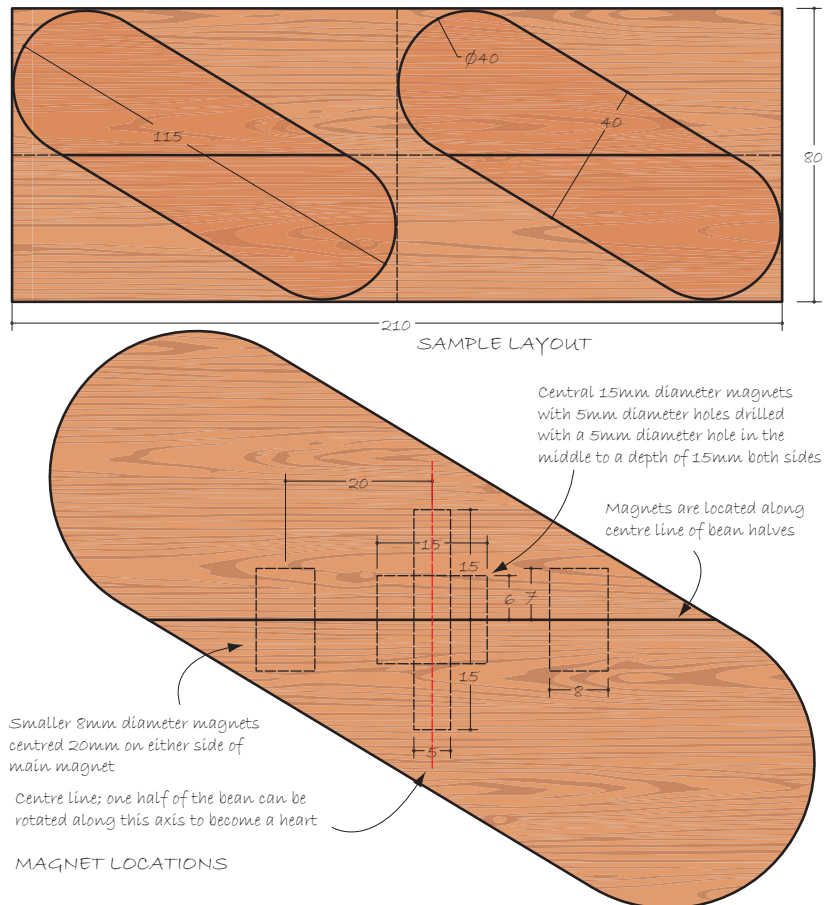
7 A family shot of templates and a heart.

8 Four bean/hearts from two Mexican pine boards. The magnets were purchased very cheaply from China. The recipients enjoyed getting the bean-to-heart magical gifts. To impress their friends they show the bean, say some magic words (abracadabra, etc.), pass the bean behind their backs and there give the job a quick twist. ■

John Swinkels

After 11 years of turning, John still considers himself an advanced beginner, as he continues to learn and experiment with various techniques. He has combined turning with leather and incorporated pewter as a decorative element. John says that the possibilities are unlimited and the enjoyment of the practice is still there, especially as much of it is done in the company of other more talented turners.

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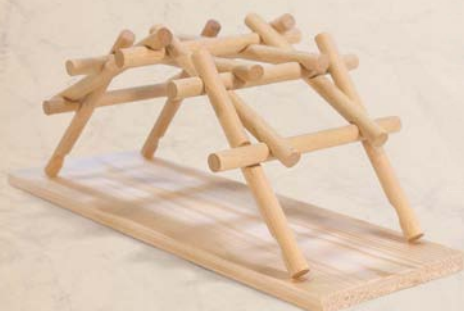
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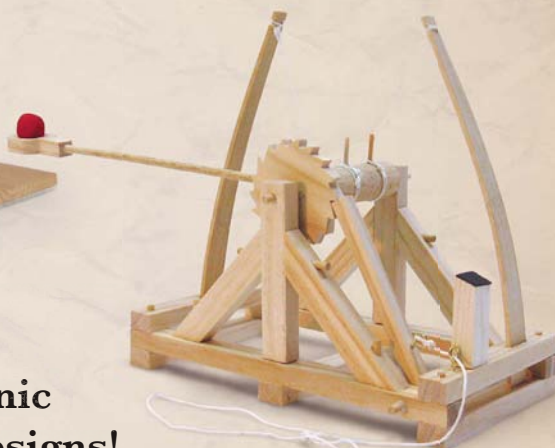


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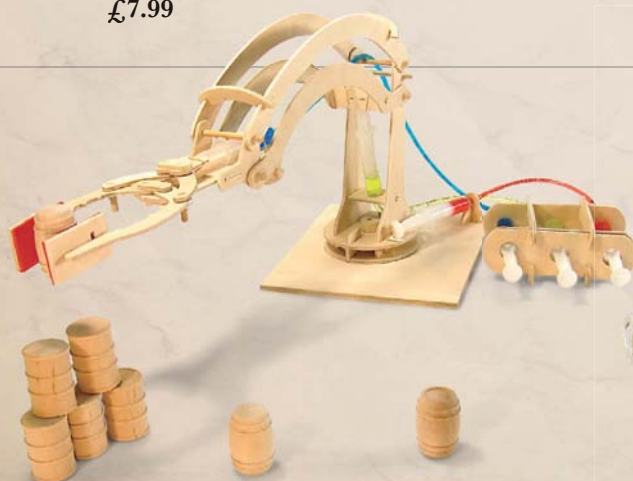


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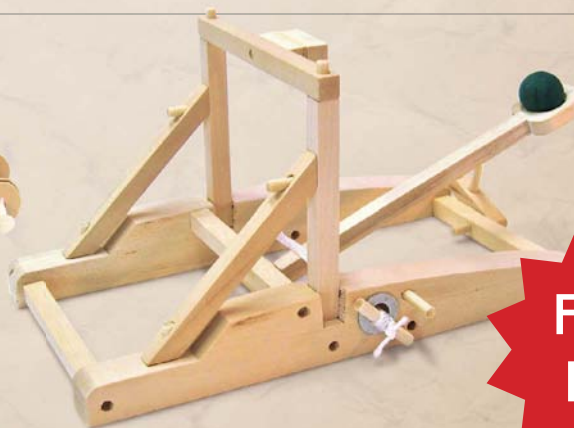
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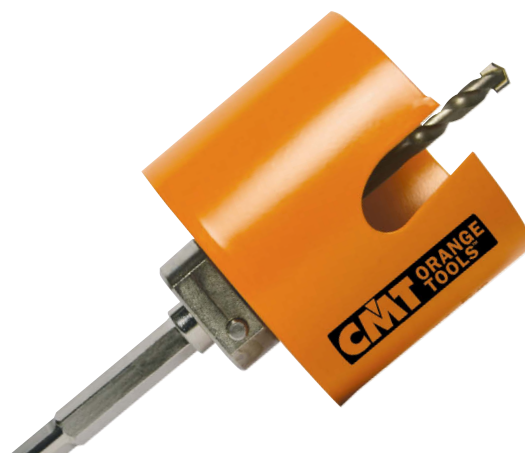
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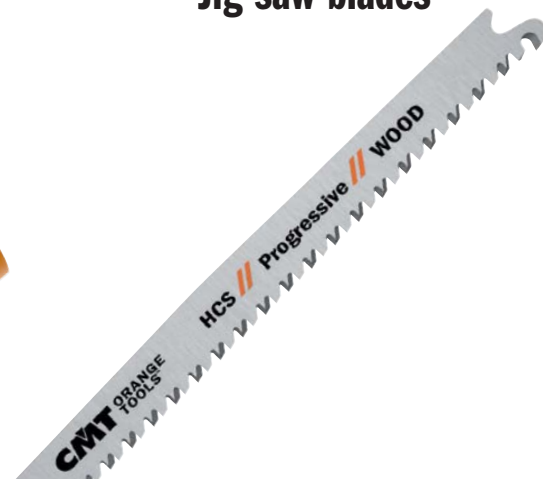
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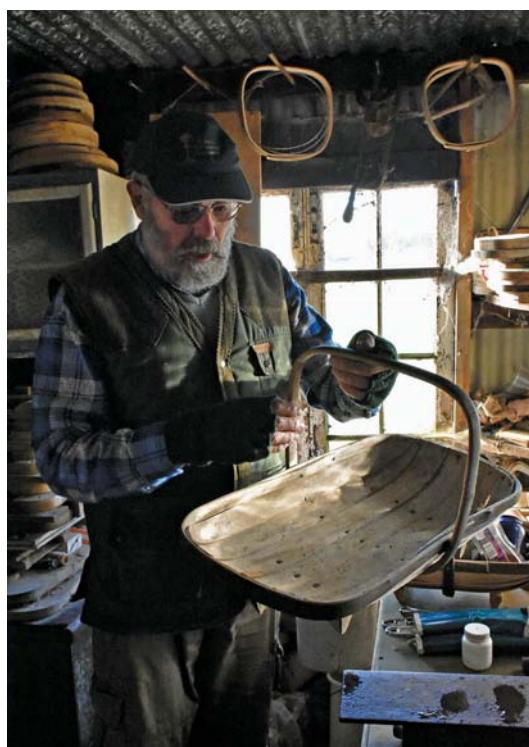
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