

Woodworking

CRAFTS

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

Knuckle down
— *make this
handy joint*

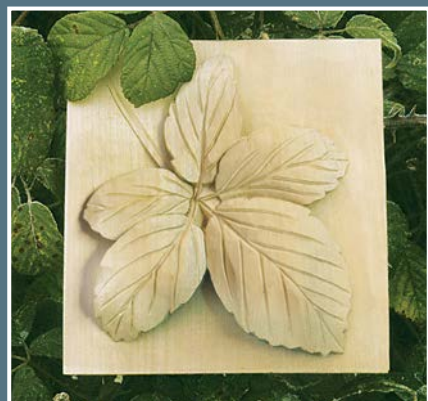
TECHNIQUES

Sewing box restoration
DIY vanity unit installation
Decorating wood with wood

Features

Wilderness Wood
Edinburgh Tool Library

BLACK SWAN WALKING STICK • COFFER CHEST • CARVED BRAMBLE LEAVES





Panel Saws



K4 perform



K3 winner comfort



A3 41



A3 31



A3 41 A

Planer-thicknessers/Planers/Thicknessers

Saw Spindle Moulder



B3 perform



B3 winner



C3 31 perform



C3 31

Combination machines

Bandsaw



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D3

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Welcome

to the February issue of
Woodworking Crafts

Hello everyone and welcome to the February issue of *Woodworking Crafts*. This year is certainly cracking on and, before we know it, Easter will have arrived – again. The years seem to fly by, which is why I sometimes feel the need to shout: ‘Stop the world, I want to get off!’ Well, we know that won’t happen but we can at least give ourselves some room, some breathing space, a chance to take stock. Recently, I took a long, hard look at the lighting level in my workshop. The space is quite a good size but unfortunately it is full of stuff, so every once in a while it needs a good clear out and tidy up. What doesn’t help is the very uneven, rather low level of artificial light. This was most apparent over winter when the days were at their shortest. Something had to be done and I went for a drastic solution by replacing some of the existing lights

that do the job of the more usual fluorescent type. They have a long service life and may possibly outlast me. They use less energy, have a constant output and reduce strain on a circuit that is some distance from the incoming supply. All good news, except I now need sunglasses to enter the workshop at night time. Still, it is a vast improvement and one which so many of us overlook. How is the lighting in your workshop or work area? Maybe it’s time to upgrade so it is more pleasant and you can actually see what you are doing. It doesn’t even have to be that expensive either.

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com



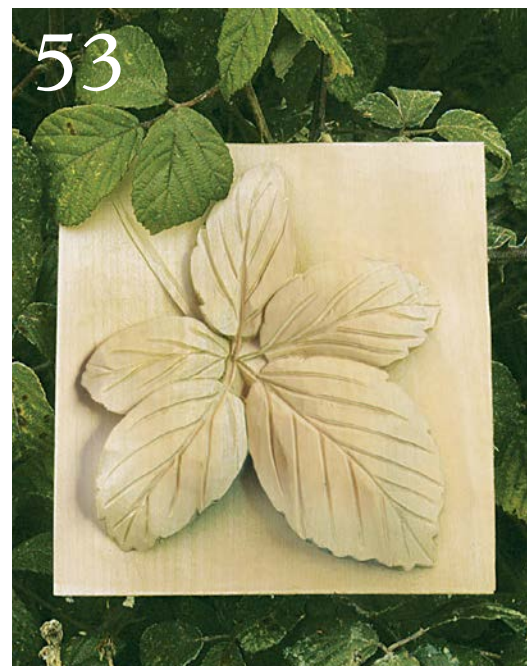
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Woodwork on the web

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



The Wilderness Wood feature is dedicated to the memory of Faith, whose son Jake is mentioned in the article. Faith, age 60, passed away very suddenly before we went to print. She was much loved and will be missed by everyone who knew her, especially Lydia, Sophie, Jake and Lucy.



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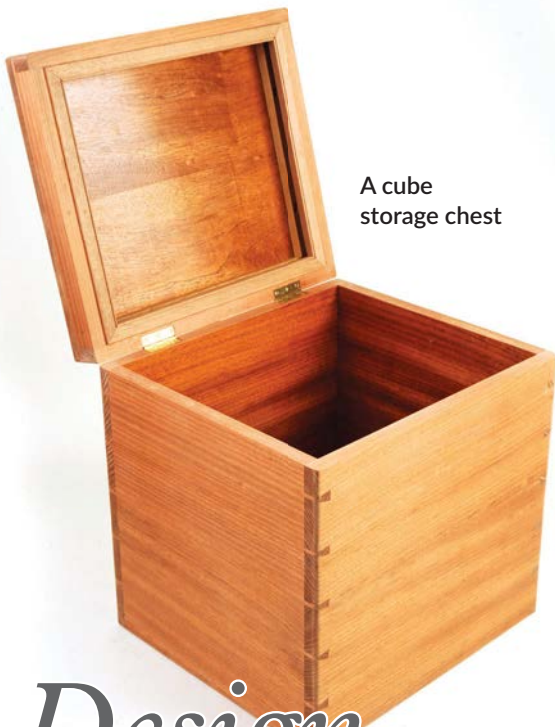
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FESTOOL

Tools for the toughest demands

PHOTOGRAPH BY GMC/DEREK JONES



A cube
storage chest



Mahogany ottoman with a seat cushion

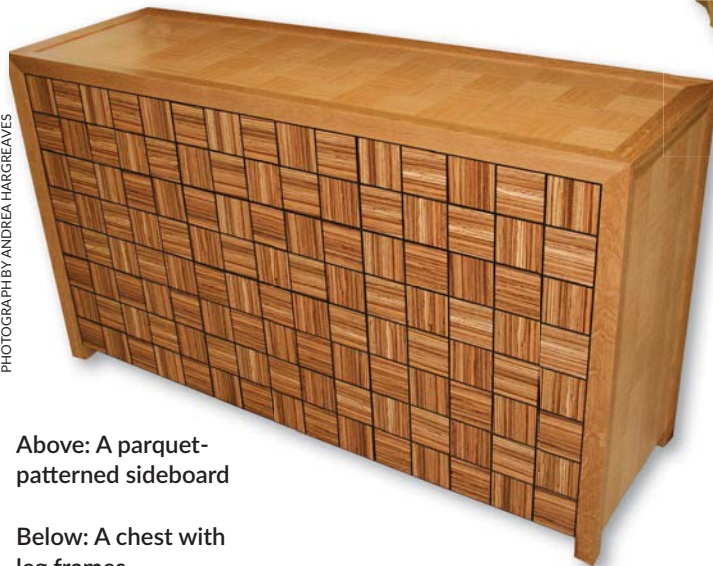
PHOTOGRAPHS BY GMC/ANTHONY BAILEY UNLESS OTHERWISE STATED

Design INSPIRATION

A low chest is functional.
You can store things in it, sit
on it and it can look good too



Above: Blanket chest in
English ash and bubinga



Above: A parquet-
patterned sideboard

Below: A chest with
leg frames



Right: Tool
chest with
dovetailed
corners



Low chest with three drawers

Coffer chest

Kevin Ley creates this striking coffer chest from walnut and cedar of Lebanon

This is another speculative piece made for next season's shows. Unusual timbers and individual designs are my unique selling points, so I try to make interesting, unusual, high-value pieces that are small enough to go into a car boot to assist impulse buyers. I have made several chests like this. They fit easily into most rooms and sell well because they can have a range of uses. The storage is flexible and the top can be used as a seat, low table, or shelf.

Design

This particular design with the internal trays is aimed at use as a sewing box or for clothes storage.

As it would be a display piece I intended to use a decorative timber. The frame and panel construction would allow figured book-matched panels to be shown off against

straighter-grained and more stable frames. The design also allows small and narrow pieces to be used. Internal trays would be fitted to give flexibility of storage.

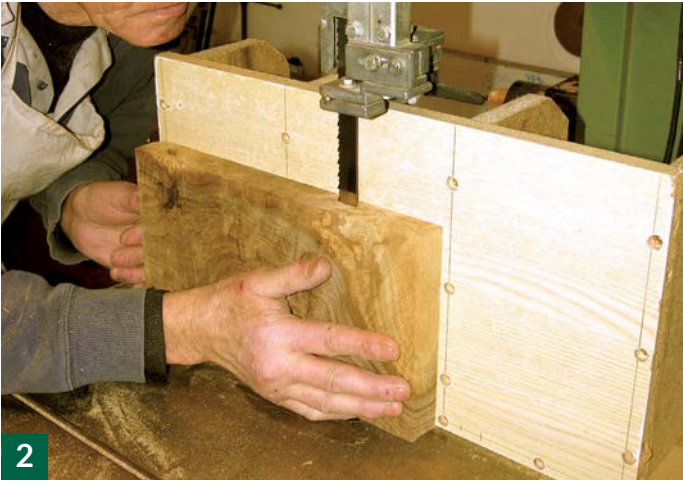
Selecting the timber

1 I still had some burr walnut stock and some of the offcuts could be used in this piece. There were some nice, highly figured decorative pieces of burr for the panels and some narrow pieces of straighter-grained timber suitable for the frames. The top panel was the largest piece I had to find.

Selecting the right pieces, working round the inevitable cracks, faults, etc. in this highly figured timber is crucial to the final look of the piece. I took my time and enjoyed the challenge, marking out the pieces and cutting them out a bit oversize with a jigsaw.

The trays would be made from cedar of Lebanon for its lovely scent, which is also an insect repellent. Cutting that out was much more straightforward – the timber comes in large, wide boards with only the occasional large knot to work round.





2 The stock I had was 25mm thick so it would also need to be deep sawn for the thinner drawer casings. Once all the pieces were cut out they were trimmed to just over size. The pieces for the panels and the tray casings were deep cut on the bandsaw. I had read a very good article by Alan Holtham in *F&C* and used his expertise to set up my own saw with a deep fence. I fitted the 19mm Fastcut blade from Tuffsaws that he recommended and I must say it made a big difference. The thinner kerf and the accurate flush weld on the blade made the saw run smoother and the higher tension helped keep it true. The deep sawing of the burr walnut for the panels and the cedar of Lebanon for the tray casings went without a hitch, and the cut finish was better too. All the pieces were faced and thickened, then stuck and stacked in the workshop to condition during the making.

CONSTRUCTION

The panels

3 The deep-cut components for the panels were carefully matched up, the joining edges planed true on the surfacer then hand planed to remove the ripples. An extra stroke or two was taken off the middle of the joining edges to give a hollow centre.

4 When the joint was clamped up this would put extra pressure on the ends where shrinkage is likely to occur.

As these pieces were burr with the grain going in all directions it was inevitable that some parts of the glued joint would be short grain to short grain and potentially weak. To counter this biscuits were used to strengthen the joint and help locate the pieces during clamping up. I took care to



place the biscuits so that they would not be exposed during the fielding process. The joint was glued up and clamped and, when cured, the glue ooze was removed with a scraper.

5 The finished panels were accurately cut to size and belt-sanded down to 150 grit. The edges of the best face were then fielded using an upright fielding cutter on the router table.

6 The fieldings were finished with a hand plane and palm sander. The panels were then random orbital and

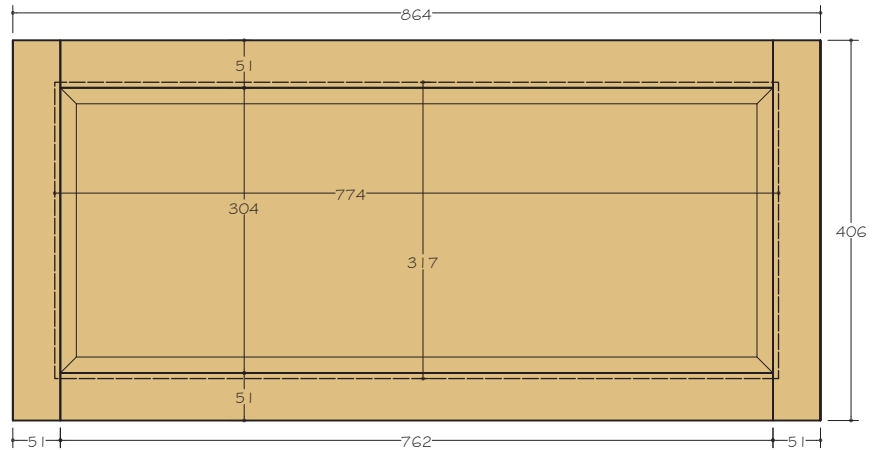
hand-sanded down to 320 grit and finished with several coats of oil. I always finish panels before assembly into the frames so that any parts exposed by future shrinkage will look the same as the rest of the panel.

The frames

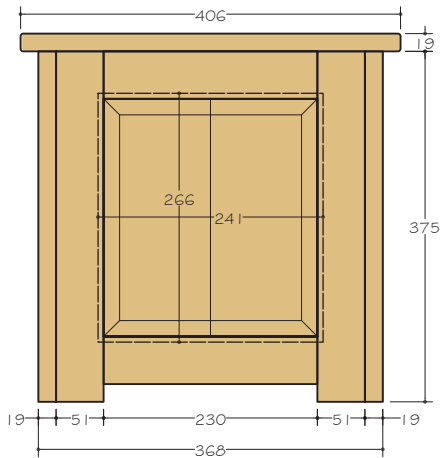
7-8 All the frame components were cut to exact size and Domino slots cut in the ends. A router with a straight cutter was set up on the router table and the stopped housings and housings to accept the panels were cut. ➤

Cutting List

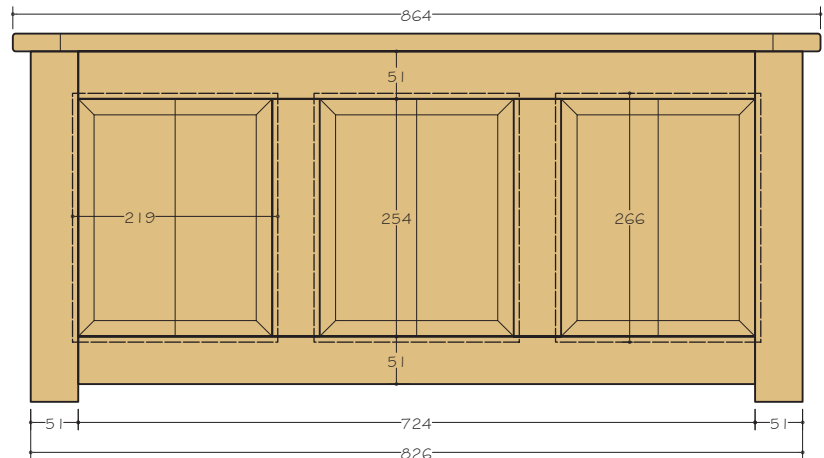
TOP FRAME	2 @ 406 x 51 x 19
TOP FRAME	2 @ 762 x 51 x 19
TOP PANEL	1 @ 774 x 317 x 13
FRONT/BACK PANELS	
SIDE FRAME	4 @ 375 x 51 x 19
TOP/BOTTOM FRAME	4 @ 724 x 51 x 19
DIVIDERS	4 @ 254 x 51 x 19
PANELS	6 @ 266 x 219 x 13
SIDE PANELS	
SIDE FRAME	4 @ 375 x 51 x 19
TOP/BOTTOM FRAME	4 @ 230 x 51 x 19
PANELS	2 @ 266 x 241 x 13
BOTTOM	1 @ 799 x 342 x 6
TRAYS	
SIDES	4 @ 370 x 90 x 8
SIDES	4 @ 326 x 90 x 8
BOTTOMS	2 @ 360 x 316 x 6
TRAY SUPPORTS	2 @ 783 x 25 x 19



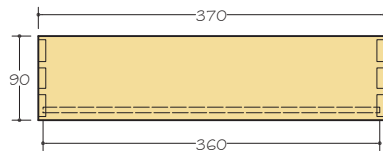
Plan of Top



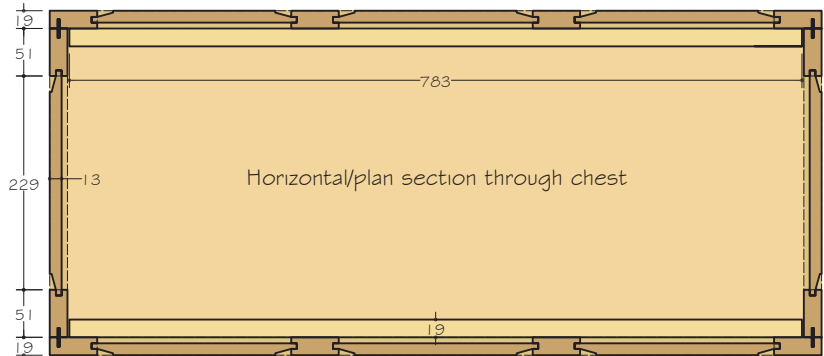
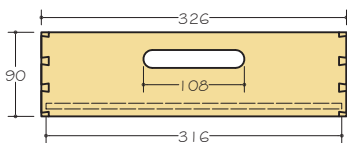
End Elevation



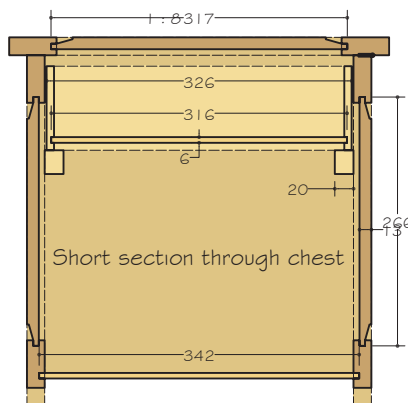
Front Elevation



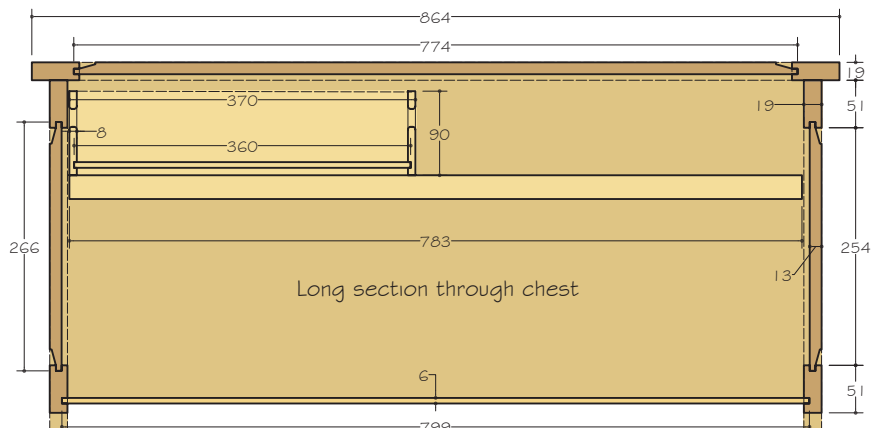
Tray Details



Horizontal/plan section through chest



Short section through chest



Long section through chest

9 The Dominos and slots were glued up, the panels dropped into place and the frames clamped up. Care was taken to ensure that no glue ooze spread on to the panels so that they were 'floating' and free to move if necessary. The frames were checked for square and wind and left to cure.

10 Once cured the housings for the ply base were cut on the router table and biscuit slots were cut in the relevant edges for the butt joints between the sides and ends. The top edge of the back was planed down to 3mm to form a rebate for the top's piano hinge.

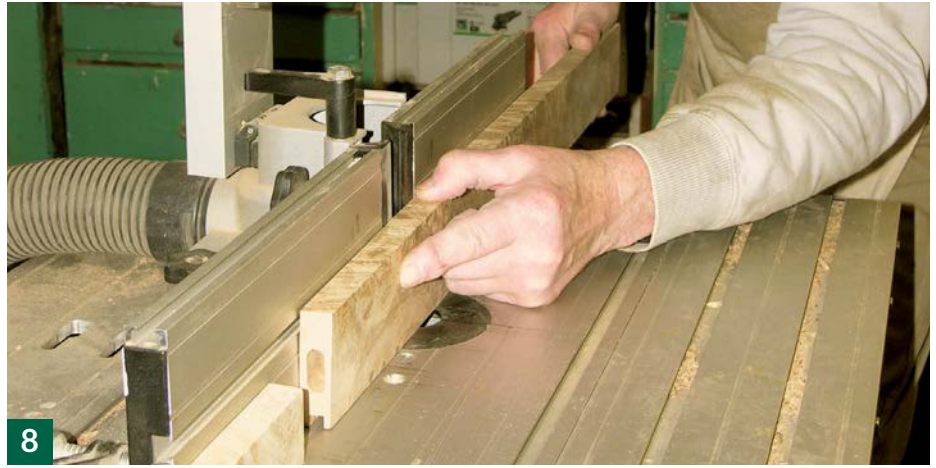
Base

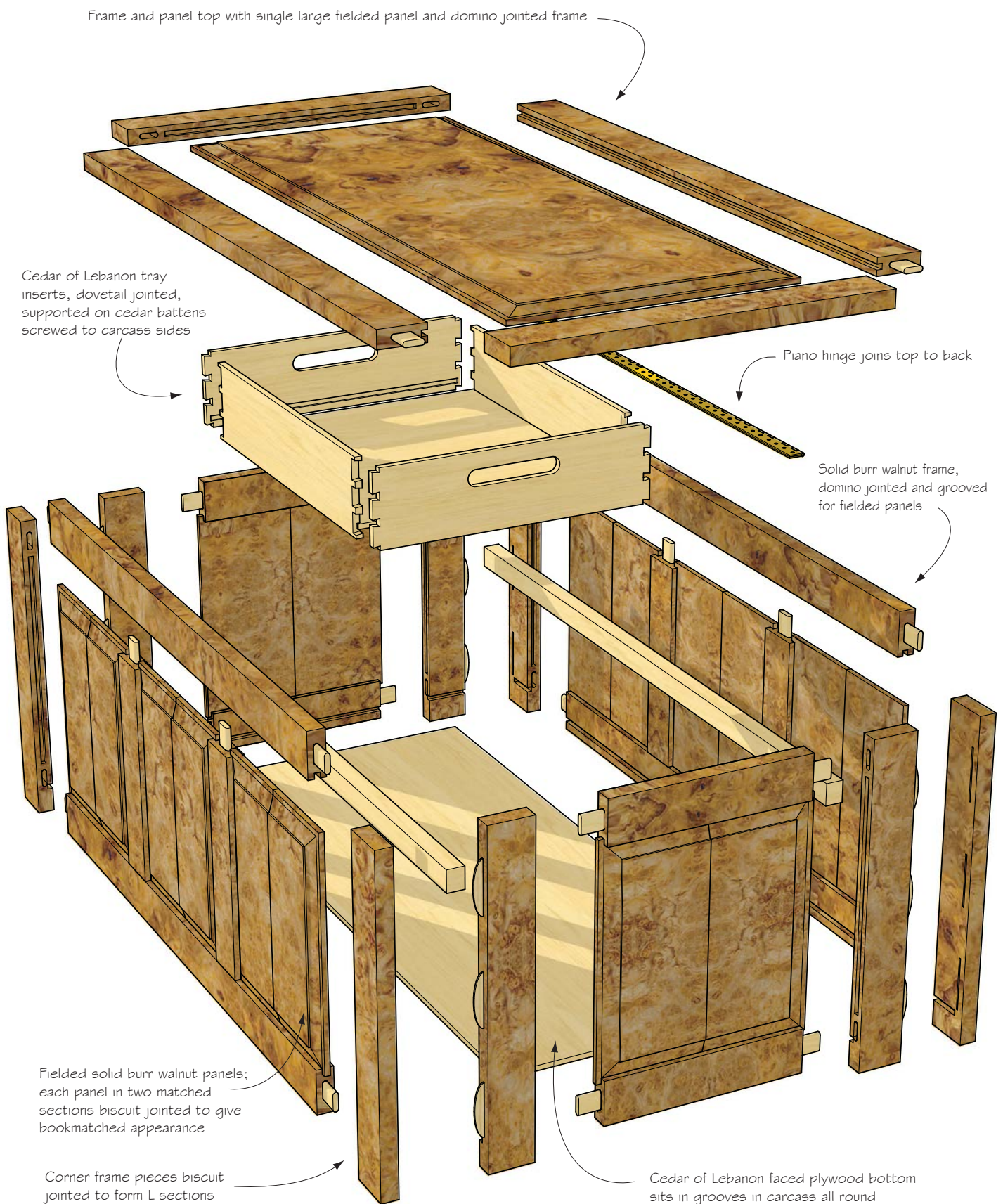
11 The base was cut from cedar of Lebanon-faced ply and was not to be sealed. This would allow the scent from the wood to freely permeate the interior of the chest. To avoid a difficult masking job the interior faces of the assembled frames were oiled prior to assembly. The glue faces were masked to avoid contamination.

Assembly

12 The biscuits, slots and edges of the butt joints in the sides and ends; and the housings for the base were glued up and the carcass assembled. The joints were tapped home with a rubber mallet and clamped up, checked for square and wind, and left to set.

13 A piano hinge was fitted to the top back edge, which had been cut short to form a rebate for it to sit in. The pilot holes for the screws were drilled with a self-centring drill bit. A strip of cedar of Lebanon was screwed to the inside of the front and back to support the trays of the chest. ➤





Top

14-16 The top was made in a similar way to the frame and panel carcass components with a larger single panel, fielded on the top face and recessed into the frame. The frame corner joints were Domino loose tenons. The outside edges of the top frame were rounded over with a 6mm radius cutter on the router and the hinge fitted to the back underface of the top. The overhang allows the top to open just past the vertical and stay open.



Trays

17-18 The pieces for the tray components were cut to size and the dovetail depths were marked with a cutting gauge. I had sharpened the knife in the gauge to make a clean cut across the grain in the soft cedar of Lebanon. The tails were marked with a hard pencil using my dovetail 'square'.

19 The sides were taped together and the bulk of the waste removed to form the tails on both ends, all together, on the bandsaw. The tails were trimmed to exact size with a paring chisel.

The pins were then marked on the sides with a scalpel, using the tails as a pattern.

20 I set up a straight cutter on the router and, using the router table and some careful marking out, removed the bulk of the waste for the pins. They were also trimmed to exact size with a paring chisel. The dovetail joints were checked for fit with a partial dry insertion. Dovetails should only go right home once. Housings were cut in the sides and ends for the cedar of Lebanon-faced ply bases. ➤



Trays

21-24 The finger slots were cut on the router table then the edges rounded over with a 3mm radius cutter to soften them.

The inside faces of the sides and ends were sanded to a finish and glue applied to the dovetails and base housings. The dovetails were tapped together around the base and the trays clamped to finally pull up the dovetails. Diagonals were measured to check for square and the trays checked for wind. When I was happy the clamped trays were left to cure. Once cured any glue ooze was removed with my mouse plane.

Finish

25 Most of the components had been sanded to 320 grit during the construction and several areas oiled as well. Now all the bare surfaces were checked for blemishes which were removed by ironing, filling, scraping, or sanding as necessary, then all were hand-sanded down to 320 grit.

Burr can soak up a lot of oil before the finish evens out, so the first coat was applied liberally and refreshed frequently during the first day, at the end of which the surface was vigorously rubbed with a soft cloth to remove any surplus and left for 24 hours to cure.

Any dull areas left where the grain was end on or very absorbent were treated with Liberon Worktop Seal & Finish, a water-based varnish that can be applied to oiled surfaces and, in this case, acts as grain filler and sealer. When dry this was lightly sanded to blend with the oiled finish and several more thin coats of finishing oil applied over the whole piece at 24-hour intervals for several days. After each coat any oil remaining on the surface after 15 minutes or so was buffed off with a soft cloth. A week later the finish was cut back with a Scotchbrite grey pad and buffed with a soft cloth.

Conclusion

I was pleased with this piece and it attracted a lot of attention and praise at the shows. Other display pieces did sell and I got several commissions, so the aim was achieved. It was nice to find a use for the small pieces of walnut left over from other jobs, and it does look stunning with an oiled finish. ■



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A woodworking glossary

The letters I, J, K

Letter I



PHOTOGRAPH BY MICHAEL T. COLLINS

Incannel gouge

IMPACT DRIVER A cordless power tool similar to an electric drill that combines rotary action with a back-and-forth impact motion for driving screws, nuts, and bolts more efficiently.

INCANNEL A gouge sharpened on the concave surface intended for making internal curve cuts.

INDEXING Using a locking pin on a lathe headstock or accessory device which allows exact spacing on a static turned item to allow decorative longitudinal machining.

INDUCTION MOTOR A heavy-duty electrical motor of the type found on most stationary woodworking machinery.

INFEED The position where a workpiece is fed into a machine, usually referring to a planer or jointer.

INLAY Inserting different material into recesses in the surface of wood.

INSERT A removable, often replaceable part of a machine table, such as the throat plate on a tablesaw, a bandsaw or router table.

INTARSIA A mosaic or 3-D picture made of wood, often cut with a scrollsaw and shaped and sanded to give depth and different levels.

INTERLOCKED GRAIN Wood grain which has multiple longitudinal directions in alternating layers, typical of many tropical hardwoods and very difficult to work and produce smooth surfaces.

Letter J

JACK PLANE A medium-sized general purpose hand plane which can undertake most common hand planing.

JIG An auxiliary device either secured to a workpiece to guide it against a cutting tool or, alternatively, to move the tool through the workpiece. An example would be a door lock recessing jig. It is a device that allows consistent repetitive work.

JIGSAW A power tool that can create straight and curved cuts with various interchangeable blades that use reciprocal vertical strokes and a pendulum action to speed up cutting.



PHOTOGRAPH BY ANTHONY BAILEY

Jigsaw

JOINER Workshop-based woodworker who creates windows, doors, staircases and similar work. Independent joiners may also do site carpentry work.

JOINTER A long-bodied hand plane for flattening edges of boards prior to gluing them together. In the US it refers to a static planing machine.

Letter K

KERF The gap created when wood fibres are removed by a saw. The width of the kerf is equal to the set (tooth splay) of the saw blade.

KICKBACK The action of woodworking machine tooling or cutter to throw the workpiece back toward the operator. It usually occurs when wood becomes trapped against a fence and the motor has reached stalling speed (near to a standstill) but then overcomes the binding effect and throws the wood violently.

KILN-DRIED TIMBER Timber that has been dried in a special kiln.

The moisture content is reduced to approximately 12-19% for external joinery wood and 9-13% for indoor woodwork and furniture according to British Standard EN942.

KNOCKDOWN FITTINGS

Manufactured fittings that are used to create easily assembled or disassembled furniture.

KNOT A circular pattern in timber, caused by a dead branch that was not fully integrated into the tree before it was cut down. A loose knot is one that cannot be relied upon to remain in place in the piece. A tight knot, on the other hand, is fixed by growth or position in the wood structure so that it firmly retains its place in the surrounding wood.



PHOTOGRAPH BY JAMES HATTER

Knock down fitting

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T-8



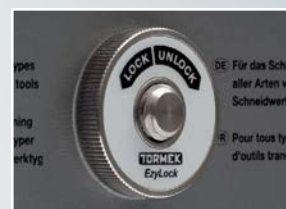
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Black swan walking stick

Paul Purnell creates that rare and unexpected beauty that is the black swan...

PHOTOGRAPH BY PAUL PURNELL UNLESS OTHERWISE STATED

Materials

- Epoxy glue
- Epoxy putty
- Brass collar
- Brass ferrule
- Hazel shank
- Assorted sandpaper: 120 to 400 grit
- Wood: Lime 140 x 100 x 40mm
- Eyes: 6mm red
- Acrylic paints

Tools

- Band saw
- Rotary carving tool
- Coarse and medium burrs
- Diamond burrs
- Flamed ruby burr
- Forstner bit or wood drill: 13mm
- Carving knife



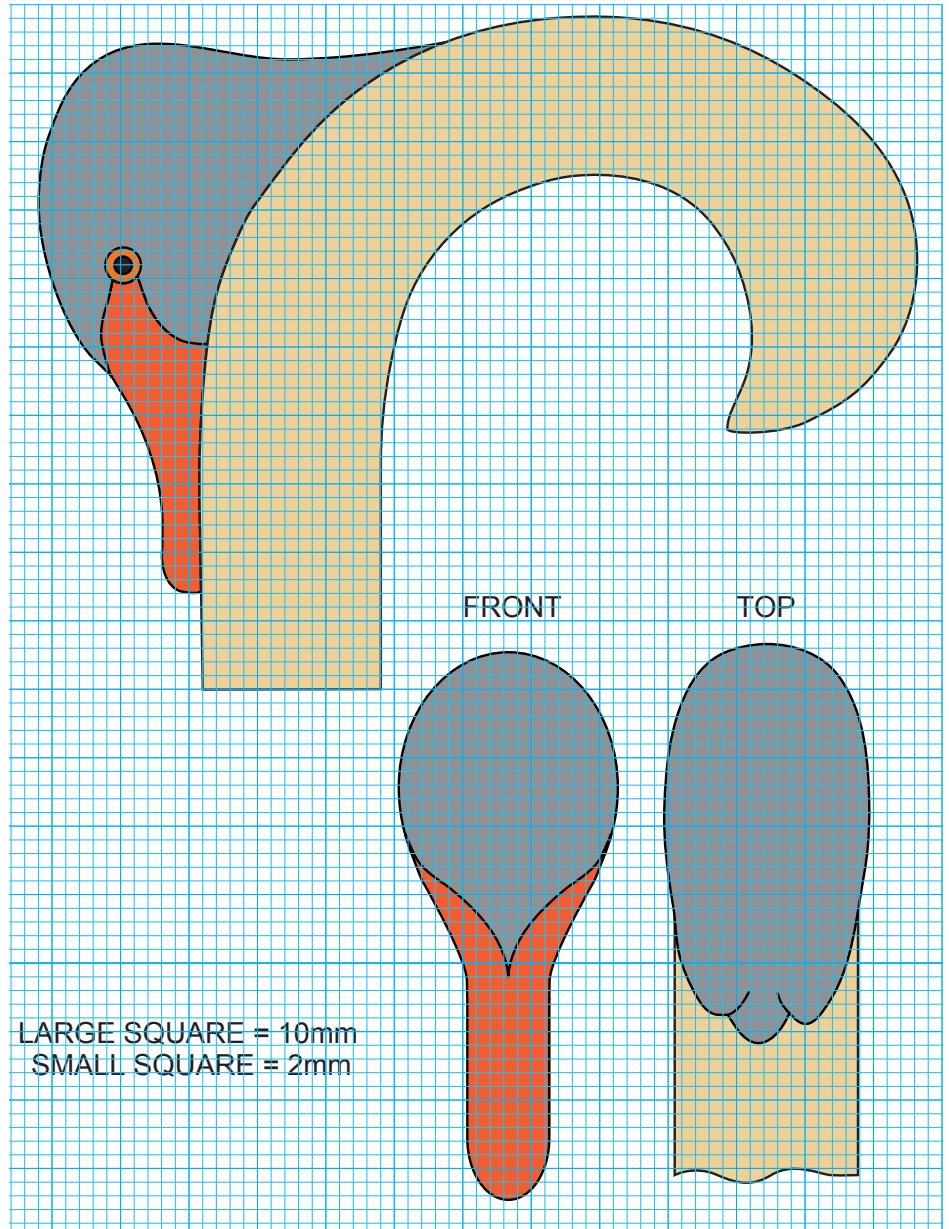
PHOTOGRAPH COURTESY OF WIKIMEDIA COMMONS

Black swans (*Cygnus atratus*) range freely in the estuaries and waterways of Western and Eastern Australia and Tasmania. In 1973, Western Australia officially proclaimed the black swan as its emblem and it appears on the state flag.

1 Use the drawings to make the three templates. Bandsaw the blank using the side-view template. You will need the other two templates for reference later.

2 Measure the diameter of the shank you intend to use and add 2mm. Find the centre point on the bottom face of the neck of the head. Draw a square around this centre point using this measurement. My stick was 26mm and the square drawn is 28mm. Adjust your measurements accordingly. The extra 2mm is to give some leeway for error. Drill a hole 45mm deep with a 13mm Forstner or wood drill at the centre point.

3 The handle width needs reducing from 40-30mm. Draw reference lines 5mm in from each side on the top face of the handle as guidance. Use a safe-end coarse burr to remove the wood down to this line and up to the position of the head. Draw on the side view of the head. The finished head is approximately 33mm wide, but keep it at 40mm for the time being. Remove the wood below the bottom edge of the head to blend in with the handle as shown in the photo. ➤



4 Give the handle a rough sand to check symmetry and progress.

5 Draw the shape of the head from the top view using the template. Using the safe-end coarse burr, carve this shape.

6 Using a coarse bull-nosed burr, start to round over the swan's head.

7 Prepare the shank to receive the head by carving a 45mm dowel. (See *Woodworking Crafts* issue 21 for the full process.) This stick will have a brass collar fitted so the two surfaces will abut one another. However, if you intend to use a spacer instead, the dowel will need to be longer to accommodate the extra length.

8 Use a carving knife to refine the swan's head to the finished dimensions. You could continue with power for this step if you prefer.

9 Place the brass collar centrally over the hole in the bottom of the neck. Draw the inner diameter of the collar on to the head. Draw a line around the neck of the head 5mm from the bottom. Use a knife to place a stop cut around this line. Pare away wood down to the inner diameter until you achieve a tight fit of the collar.

10 Pencil sighting lines 10mm either side of the centreline on the handle. With a bull-nosed burr round over the handle.

11 Shape the tip of the handle with the coarse burr. Start the reduction at 30mm from the tip. Take each side down to meet the tip at 5mm from the centreline. Give the entire piece a general sand with a cushioned-drum sander fitted with 120 grit paper.



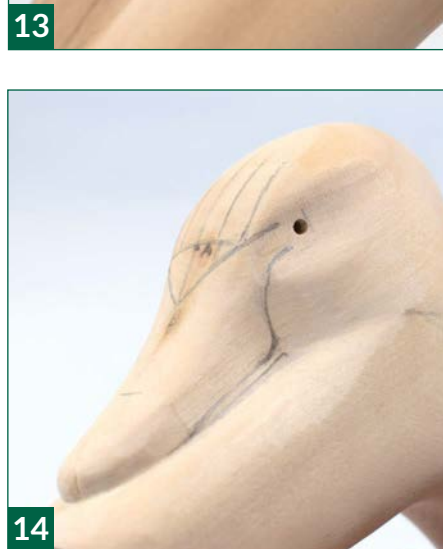
12 The collar I have used is 25mm in length. In step 9, it was fitted 5mm from the bottom of the head. Therefore, it will cover 20mm of the shank. Mark this measurement on the shank. Secure an edge of magazine paper around this point. Use a carving knife to place a stop cut around the shank. Carefully cut a groove at this point, working from the top side. Now systematically remove wood from around the shank until the collar fits snugly. Test fit the collar with the head and shank joined.



13 Use pins to locate the position of the eyes. Drill a hole approximately 10mm deep using a 3mm drill bit. With 120 grit paper on the split-mandrel sander, shape the eye depression.



14 With a carving knife, start defining the bill. In this project only the upper mandible is visible. Reduce it to its final width and slope. Then add the shield-shaped nail at the tip. Drawing sighting lines 5mm apart on the head will help you to achieve symmetry.

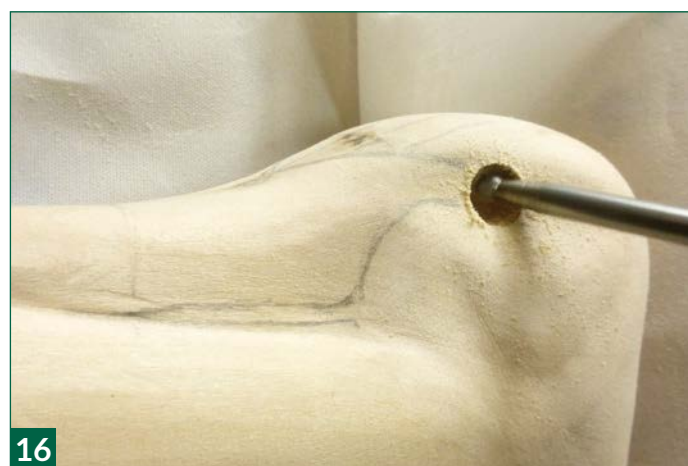


15 Use a diamond bud-shaped burr to define the cheeks. Round over and blend into the head with the split-mandrel sander and 120 grit paper.



16 Enlarge the eye socket to accommodate a 6mm red eye using a bullet or flamed burr. Then use a 3mm ball to enlarge the back of the socket to allow sufficient epoxy putty to fix the eyes. Lightly round over the edge of the socket with the mandrel sander.

17 Use a carving knife to separate the beak from the forehead. Use a stop cut, then remove a sliver of wood. ➤



18 Do the same as above to define the bottom edge of the upper mandible as shown. Round over the hard edges with 240 grit on the split-mandrel sander.

19 Use a small gouge to add a little depression behind where the upper and lower bill meet to create the 'smile'.

20 With a cushioned-drum sander, flatten the area of the beak where the nostrils are located, then use a 2mm diamond ball to define the nostrils. Add a lip to the nostril with a flamed ruby burr and then sand.

21 The head and beak details are now finished. Give everything a final sand by hand with 240, 320 and 400 grits before texturing. Draw on the feather flow.

22 The cheek areas and the crown of the head are rows of tiny feathers. Outline these using a flamed ruby. Use the mandrel sander and 240 grit paper to soften the edges and remove all burr marks.

23 The small feathers outlined above blend into rows of V-shaped clumps of feathers. The crown merges with the occiput and nape and the cheeks merge with the sides of the neck. To carve these feathers use a combination of the flamed ruby and a bull-nosed ceramic stone. Sand with the mandrel sander.

24 Before texturing ensure you have removed all burr marks. Start texturing the feathers from the bottom of the nape and work upwards. Use a 2mm, blue ceramic cylinder to texture the feathers. Ensure that your strokes have a degree of randomness and are neither straight nor regimented.

25 Use the same blue cylinder to texture the remaining small feathers of the cheeks, crown and forehead. Use a pad in the rotary tool to remove any fuzzy areas left by the texturing. This image shows the texturing completed.

Did you know:

The term swan-song comes from the ancient Greek belief that a swan sang a song of death when its life was about to end.



18



19



20



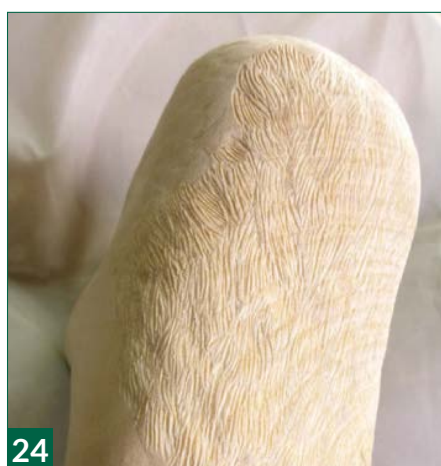
21



22



23



24



25

26 Apply three coats of finishing oil and allow to dry for seven days.

27 Fix the eyes with epoxy putty and make the eye rings.

28 After seven days, you can start to paint. Start with the beak using a mixture of cadmium red (medium) and a hint of golden ochre. Add white for a pink and blend to the tip. Add a touch of this pink below the upper bill. Use white for the stripe across the beak and the nail.

29 Paint the rest of the head with a mixture of ultramarine blue and burnt sienna to create a rich grey-black. With the addition of black and then white, create darker and lighter values with which to add some random highlights. Paint inside the nostrils with the darker value. Paint the front half of the eye ring with white. Use a weak wash of the dark colour to go over the bill and eye ring to tone down the colour.

30 After seven days, apply another two coats of finishing oil to the head. Apply three coats of oil to the shank. Fix the ferrule with epoxy glue. Glue the head and collar to the shank with epoxy glue.

31 The finished stick should look something like this. ■



Walnut sewing box conversion

Louise Biggs has another restoration job all sewn up

The walnut veneered sewing box was brought into me with a request to restore it to its former glory. The second request was to line the compartments and trays with faux suede. With sewing boxes no longer fashionable the customer thought it would be ideal to house her antique jewellery collection. Although not a standard request the fabric linings would be reversible so at any time in the future the box could be returned to its original state.



Assessment

- The bottom front edge and bottom panel were both missing.
- The strike plate of the lock was missing, presumably still attached to the missing front rail.
- The lid had broken away from the back edge of the top.
- The bottoms of the four compartments were loose.
- Two of the small trays were missing.
- One of the handles was missing.
- There was some minor damage to the veneers.

1 The sewing box was taken apart and the stay arms removed and labelled. Each of the compartments and their corresponding bottoms were marked as to their position. The screws from the various hinges and lock were removed and kept in labelled envelopes.

Repairing the lid of the box

2 As the lid would be required to gauge the size of the new bottom panel it made sense to restore this section first. The ground timber had a clean break but there was damage to the veneer edges which would require further attention. The first stage was to glue the broken back edge back to the lid and sides, clamping the lid across

the back edge to keep the corners aligned and to clamp the lid to the edge, keeping the back edge straight with stout clamp blocks.

3 To prevent losing too much on the original veneer, a 2mm straight cutter was used to rout a thin groove the length of the damaged veneer joint. A thick batten of MDF was clamped across the top to act as a support for the router and router fence. The groove was cut deep enough to remove the damaged area.

Tool list

- Jack and block plane
- Tablesaw
- Planer/thicknesser
- Chisels – various sizes
- Screwdrivers – various sizes
- Sash, 'F' and 'G' clamps
- Marking gauge
- Utility knife
- Router and table
- Point round and straight cutters
- Drill and drill bits
- Dovetail saw
- Flush cut saw
- PPE – eye and dust protection



The bottom front edge and bottom panel were missing.



The broken back edge of the lid

4 A thin strip of walnut was glued along the groove and the broken top corner built up with a small section of timber. Once the glue was dry the new timber was planed using a block plane and finished with a chisel until the repairs were flush with the original timber and shaped in.

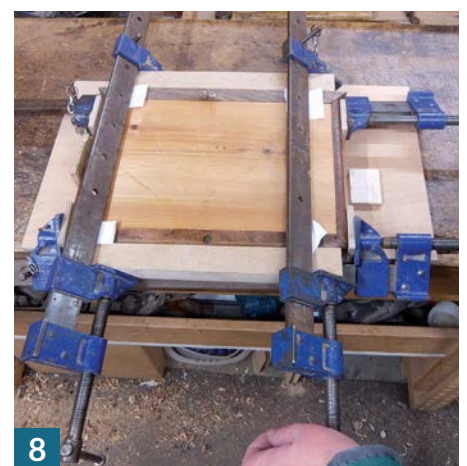
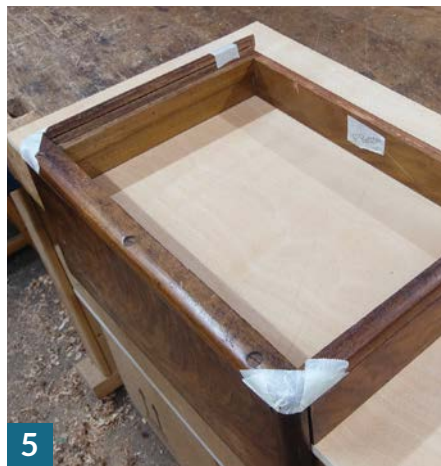
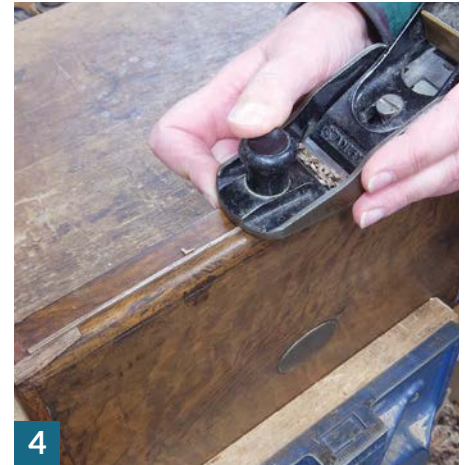
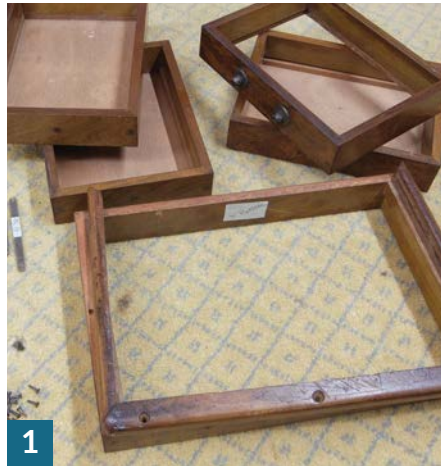
Reinstating the bottom and front edge

5 A section of walnut was prepared to the correct thickness to form the missing front edge. At this stage it was left wider than required. In order to cut the edge to the right length the broken mitre joints on the back and side sections were held with tape and the frame located on the bottom compartment by the two small dowels. The back panel was also screwed back in position and these sections aligned.

6 The mitre joints were then cut across the back corners allowing the front edge to be the correct length, while leaving the necessary square edge at the front, which would be rounded off at a later stage. With the front edge held in place the measurements were taken for the bottom panel.

7 Having prepared a piece of old pine to form the new bottom panel the edges of this were routed with a 2mm straight cutter on a router table to form a groove for a loose tongue to be fitted which corresponded to the original grooves in the side and back edges. The panel was then fitted to the original edges and the new front edge test fitted to make sure everything aligned properly.

8 Gluing up the bottom panel. It would still be positioned on the bottom compartment to guarantee the sides lining up. So as to prevent the two units sticking together the compartment was wrapped in cling wrap. The edges and bottom panel were glued and clamped using sash clamps. Releasing or tightening each clamp allowed each mitre joint to be aligned. In this photo the bottom right corner was being adjusted. For the top right corner the right-hand vertical clamp and top right horizontal clamp would be adjusted and so on. For each corner adjusted, at least one clamp is holding the other corners tight. ➤



9 With the cling wrap removed, the lid and front of the box were screwed back in place and with stay arms taped in place on the front the new front edge could be marked for the correct width and also the rounded corners. Keeping the whole box together the front edge was gradually planed using a jack plane to the required width, checking every couple of passes to check alignment with the front of the box.



10 The router was set up with an 8mm radius point round cutter. This was the closest radius to the existing bottom edges. Before cutting the new edge a waste piece of timber was used to check the position of the cutter and adjustments made as required before cutting the new edge.

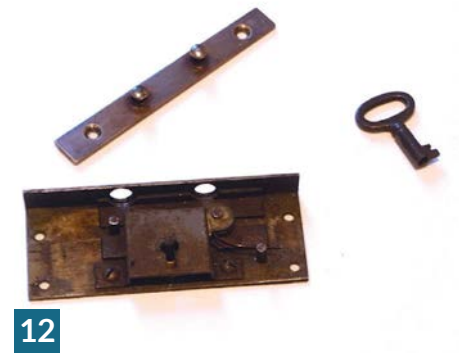


11 The corners were initially cut on the bandsaw and a spokeshave used to complete the shaping of the corners, blending in with the front and side edges before the whole bottom panel was abraded on the new timber through the grades. The bottom compartment and bottom panel were then glued together.



Fitting the new strike plate

12 With the original strike plate missing the lock and key were taken to a company local to me which specialises in the restoration of antique and fine metalwork. It crafted the new strike plate and toned the colour of the metal to match the existing lock.



13 The box was completely reassembled so the position of the strike plate could be marked on the new front edge using a utility knife. Two shallow holes were drilled to accommodate the back edge of the strike plate.



14 The recess for the strike plate was cut out using a small chisel. With the correct depth reached the plate was screwed in place to check that everything came together correctly and that the lock did not have too much movement when locked.



15 Unable to cover everything within this article, any minor repairs were carried out and two new trays were made to match the existing ones. Half-lap joints were used in the corners before thin ply was glued to the underside. I suspect that these inner trays were a later addition due to the use of the ply and the fact they were mahogany, not walnut. With the trays completed, the sewing box was ready for the repairs to be stained, coloured and polished to match before the remainder was cleaned and waxed.

16 The interiors of the compartments were lined with faux suede and the interior trays were wrapped in the material inside and out. so that when in place they did not damage the jewellery in the compartment below.



16 The interiors of the compartments were lined with faux suede and the interior trays were wrapped in the material inside and out. so that when in place they did not damage the jewellery in the compartment below.

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NEWS & EVENTS

All the latest events and news from the world of woodworking

Discover Axminster day 2017

The 2017 Discover Axminster day in November was held at Walsall Football Stadium in the West Midlands. It was a bigger event than the previous years at Rycotewood Furniture Centre, Oxford. It was intended for the benefit of students and their tutors to find out what opportunities are available to them in the furniture industry and to learn more about tools and techniques. A number of colleges took part, showing off 3D printing and design, and there were demonstrations including a one-day Windsor chair build, Canadian woodworking author Vic Tesolin demonstrating Veritas planes and the Bloodhound World Speed Record team. A section was devoted to Axminster's education CNC machines and the tool stands included Bosch, Fein, Festool and JSP for dustmasks and respirators. In addition a series of talks ran during the day – a very positive one from the Worshipful Company of Furniture Makers about the prospects for new recruits to the industry and one by Matt Estlea about the benefits of social media for marketing a business being just two of them. Complete with free refreshments and a food kiosk for visitors it was a thoroughly engaging and interesting day and gives a lot of hope for young entrants into the world of furniture making in the future.



First-year design students
Emily, Catherine and Amy from
Wolverhampton School of Art



Above: Members of Cardiff Racing,
the repeat prize winning Formula
Student Competition with examples of
3D-printed steering wheels and other
racing components

Right: Ex-Rycotewood graduate
Matt Estlea, now working for
Axminster developing its social media,
demonstrating the Rider plane range



The main exhibition hall where several hundred students and tutor guests were able to see various products and demonstrations

Reader solution

An open and shut case

I own a Record bandsaw which is brilliant and certainly fulfils my needs for a lot of tasks. It is easy to maintain, easy to clean, it can be extracted reasonably well and it has a good cutting capacity. The one bugbear I had after owning it for a few years, was that the captive nuts fitted to each door of casing were no longer captive, i.e. they were turning when I used an allen key to open or close the doors each time I wanted to change blades or clear sawdust. It meant the doors would not open as the bolt and nut would just turn as one, most annoying.

1) My solution was to hacksaw off the old fittings leaving two holes. I managed to source a pack of special backplates with M6 nuts welded to them. I planned to fix them on the outside of each door so a bolt could then go through each nut and tighten against the fitting inside the case, thus locking the doors shut. That was the theory anyway. The first job was to check the plates would fit and actually do the job. In fact, the case projects beyond the doors so it would need the plates to stand off by the thickness of four washers.

2) I use pop rivets for just about everything from my old Landrover to leather axe guards and I keep a comprehensive stock of sizes. I chose ones with very large heads, plus some washers to give the right amount of stand-off from the casing.

3) Each door was removed and worked on in turn. A tall piece of 19mm ply was clamped in the vice so the pressed steel door edge would rest on it and the hole positions for the plate then marked with felt-tip pen and each position given three strikes of an engineer's punch. Two holes were then drilled the correct size for the long pop rivets. It was pretty obvious from the

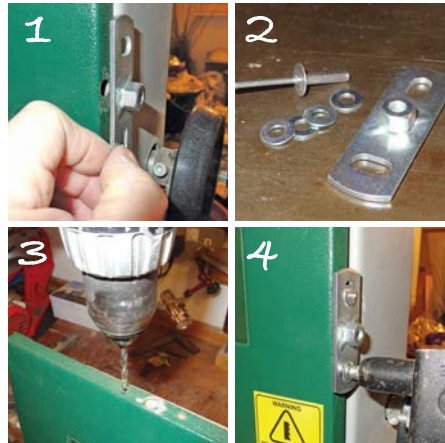


plate slots that there would be scope for adjustment before the pop rivets were pulled tight.

4) The first backplate was then pop-riveted in place with a stack of four washers under each plate. The nut was centred over the existing bolt hole in the casing door before the full force of the rivet gun was applied. The door was remounted and I found a couple of shiny new long allen bolts in my collection of bits. I started winding one in expecting it to appear from the inside of the door but it jammed. A bit of investigation showed that the hole in the plate itself was not threaded and presumably only there to help parts location during welding. The bolt needed a bit of force to unwind and then the plate was drilled out on the bench to a larger diameter so the bolt would definitely run through OK. For the second door I pre-drilled the plate before mounting it now that I knew what the issue was.

Finally both doors were rehung again and the allen bolts wound in until they had fully engaged with the shaped catch plates in the casing. Now I have a positive locking and unlocking method which won't have me in a spin.

Ralf Burton

Web links for you

YouTube

How to Turn Your Planer Into a Jointer

If you have done what a lot of folks have done and bought a compact thicknesser unit, this useful clip shows you how to machine edges as well as faces using a simple jig!



Pinterest

Kirstyelson.co.uk

Lots of really cute rows of houses and lighthouses perfect as presents or decorating your home, all you need is scrap wood and imagination!



Instagram

Anneofalltrades

This is all about Anne Briggs Bohnett. Among the cute stuff – bunnies ducks etc. – there is plenty of tool stuff as well. She writes from time to time for our sister magazine *Furniture & Cabinetmaking*.



Vimeo

Radius dish router jig

It looks a bit complicated to start with but in fact this jig isn't – it just needs a bit of working out. What it gives you is a means of creating dished out shapes in a variety of diameters

EVENTS

The Midlands Woodworking and Powertool Show, Notts. 22-24 March 2018, Newark Showground.
www.nelton.co.uk/midlands-woodworking-power-tool-show.html

Yandles Woodworking Show, 13-14 April 2018, Martock, Somerset.
www.yandles.co.uk

FFX Tool Show, 23-25 February 2018, Keble Event Centre, Maidstone, Kent, ME14 3JF.

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Woodland ways

Woodland management threats

PHOTOGRAPHS BY GARY MARSHALL

This month **Gary Marshall** raids his archives to discover that woodland threats identified many years ago have only increased in number – surprise...

Carn Brea, Cornwall – smoking tin mine engine house chimneys, during Imagineers Week, June 2008, reflecting on Cornwall's industrial past

So what constitutes a threat? Anything that can affect it adversely and that is an awful lot of stuff. So it will depend on the wood: its type, location, access, the owners/users, topography, commercial, amenity and/or landscape value and official constraints – among many other factors.

When writing about current concerns I'm inclined to revisit the past – to understand recent or not so recent changes. I've just gone through old woodland management plans I've kept for reference and briefly identified common and uncommon threats. These mainly date back some 15 or more years. Some of the threats relate to: potential loss of woodland, some to loss of or damage to trees, species or habitats – others relate to loss of or damage to access, enjoyment or landscape value. All were considered important then and still are important today, although now the list would be in a different order I suspect.

Existing threat list

Based on occurrence of key words in the old plans – not at all scientific – the numbers on the right relate to the number of times key words appear in the 'threats' section of the plans:

1	Damage	39
2	Invasive	29
3	Fire	21
4	Rhododendron	18
5	Vegetation/weed/undergrowth	13
6	Rabbit	12
7	Birch	11
8	Bracken	10
9	Deer	10
10	Wind	9
10	Fly tipping/litter	9
11	Squirrel	8
11	Vandalism	8
13	Mud/water logging	7
14	Pollution	5
15	Loss of historic features	5

Other less common items include:

loss of habitat – 2; loss of mature/prominent trees – 2; and loss of members of a local conservation group.

Threat levels today

1 Damage – no surprises this is number one. Damage/loss can be on a large scale – e.g. clear felling, development loss or on just a small scale, such as damage to signs, individual species, access ways or the environment.

2 Invasive – features heavily, either as alien species (**see 4**) or as unwanted native opportunists (in some woods) – such as bracken or birch (**see 7 and 8**).

3 Fire – although fire is a limited risk in many of our broadleaved ancient woodlands, in coniferous plantations and heathland areas it is a huge threat, particularly where there is a lot of dry bracken, gorse or heather (**see 8**). All woods should have a fire plan.

4 Rhododendron relates to *Rhododendron ponticum* – an invasive species on sandstone soils and other areas. It suppresses native flora, changes the nature of woodland and is costly to eradicate. There have been some tremendous rhododendron clearance schemes undertaken in recent years and even some bio-controls too. (Other outlaws include Japanese knotweed, Himalayan balsam and giant hogweed).

5 Weeds and undergrowth – particularly a problem in young woods. With no weeding and aftercare while woods are establishing, there would be no new woods for the future.

6 Rabbits – a well known pest, gnawing the bark of young and older trees. They can kill unprotected stands, undermine access ways and speed erosion.

7 Birch – see **2**. Birch is particularly invasive in open areas on light soils or in new plantings.

8 Bracken – not only a fire risk but severely limiting to native tree and plant regeneration.

9 Deer – an increasing problem, browsing, debarking, uprooting. Currently higher up my list.



This wood is under threat from limestone quarrying



10 Wind – see my article in issue 31 on the Great Storm of 1987, that says it all!

The other listed threats: Fly tipping/litter; squirrels; vandalism; mud/water logging; pollution; loss of historic features such as woodbanks, would all feature today in many a woodland management plan.

Newer additional threats

Two additional current threats are: tree diseases and climate change. These now feature high up most threat lists. They are both likely to affect our woodlands for a very long time. Another time I'll go into how we can mitigate against threats – but, as always I've just run out of space. ■



Rare native woodland species under threat – spiked campion



There is a fire risk in this sort of habitat



Sheep damage



Fallow deer



Invasive Himalayan balsam



Wind damage

PLANS 4 YOU

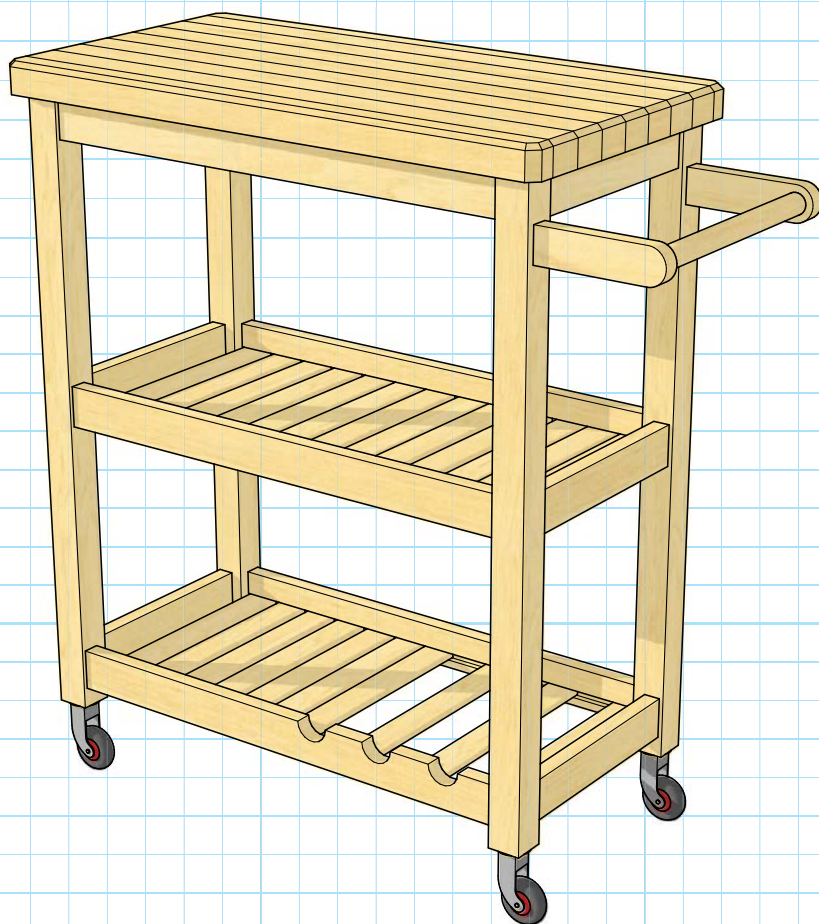
Dining trolley

Simon Rodway is our
'host with the most'

Cutting list

Top	1	@	720 X 380 X 38
Legs	4	@	760 X 40 X 40
Side rails	6	@	655 X 50 X 20
End rails	6	@	315 X 50 X 20
Slats	23	@	306 X 38 X 10
Towel rail arms	2	@	182 X 42 X 20
Towel rail	1	@	300 X 25 diameter

Note: Top is shown as a single piece,
buttons not included in cutting list



If you were looking for a space-saving and multi-purpose item of furniture, it is likely that a dining trolley would be quite a long way down your list. However, take a moment to consider the variety of uses and locations it could be used in – as a static shelf and storage area in a kitchen or dining area perhaps; as additional food preparation space on special occasions; for outdoor eating in the summer months; and, of course as a mobile serving aid for parties. Although at first glance it looks to be specialised for a single purpose, I think that, in fact, it has adaptability built into the design and can turn its hand to lots of functions.

Multi-purpose

With a range of potential uses in mind, I have kept this particular example fairly simple, and although half the bottom shelf is dedicated to wine storage, it would be very straightforward to include some extra slats and turn it into a second shelf. The top is also designed to be used not just for serving but preparation, cutting and carving as well should the need arise. In common with most dining trolleys, the top is near worktop height to facilitate this. The depth is also conventionally narrow, to allow

the trolley to be positioned alongside a table, and of course there are castors on the legs to make moving easy, even if there are stacks of plates, dishes, food and wine on board.

Construction

The construction is a conventional frame of legs and rails, joined using mortise and tenons, the ends of the tenons being mitred to allow for maximum length and strength. The bottom two sets of side or long rails are grooved along the inside faces to take the 38mm-wide slats which form the shelf bottoms. I have shown these with rounded edges, but you could just as readily use rectangular sections. The bottom shelf, as I have mentioned, has cutouts on the front rail to locate the necks of bottles, and increased spacing between the slats behind to prevent the bottles moving. The middle shelf could also be adapted to allow larger-diameter items to be stored or carried, by reducing the height of the rail slightly and moving the grooves upwards, thus making a flatter shelf with a reduced upstand around the perimeter.

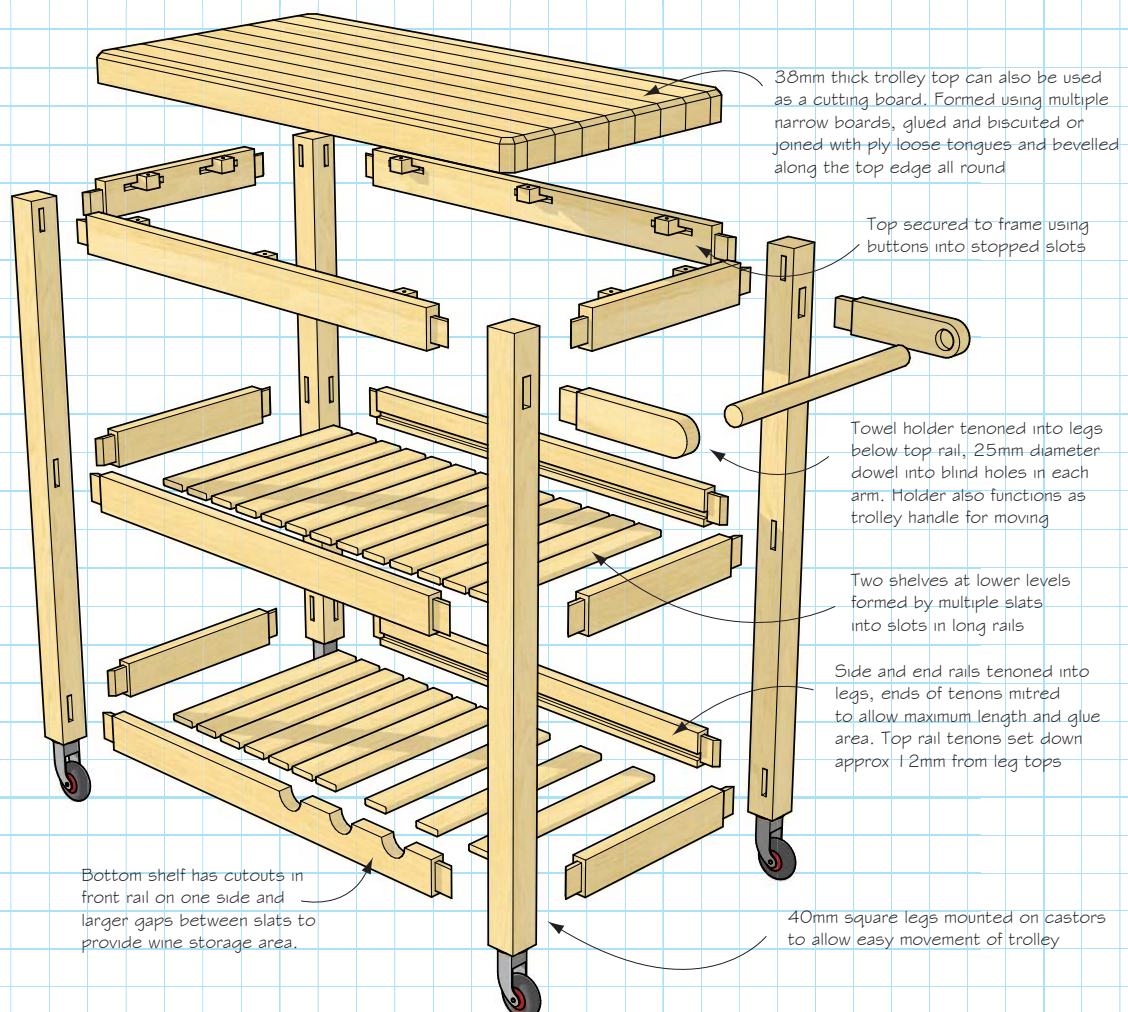
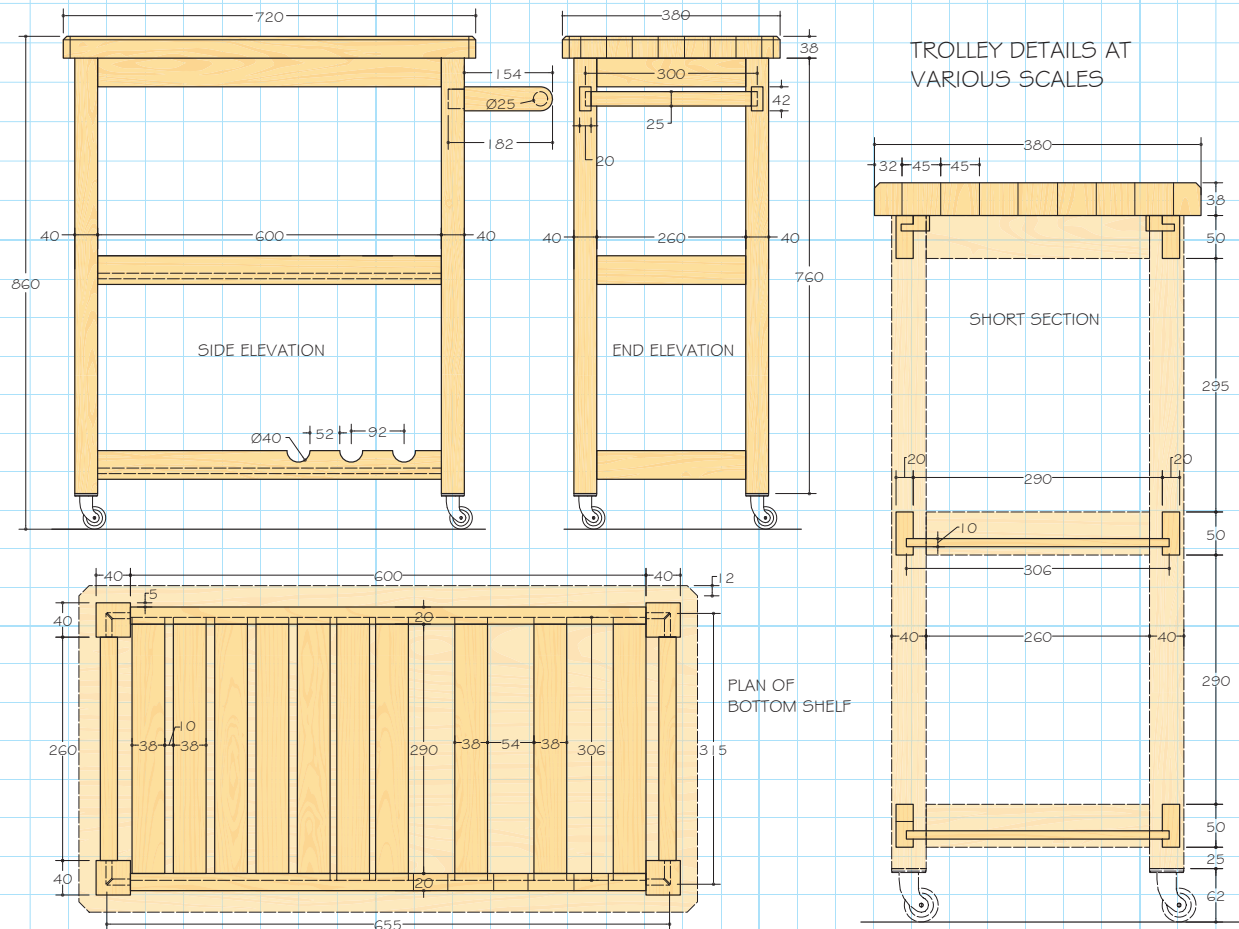
The top rails have the tenons set down about 12mm from the top of the legs, and are only grooved to take the buttons which fix the top to the frame.

Chopping board

The top itself is a chopping board-type construction, using multiple thinner strips of timber joined by glue and either biscuits or ply loose tongues to form a stable wider board. I have shown the board at 38mm thick but you could reduce this by up to 10mm without compromising the function or stability of the top. The corners are cut off or chamfered at about 12mm, as people are likely to be constantly moving around the trolley at close proximity and this will help to avoid accidents. The top edges also have a small chamfer all round, partly for visual effect, but also so that there are as few sharp corners as possible.

Finishing touch

The finishing touch is a towel or cloth rail, which is formed by a pair of arms tenoned at one end into the legs and rounded at the other, with blind holes on the insides to take a piece of dowel running in between. This rail will also function as a pulling handle when the trolley is being moved, so the tenons need to be well glued (maybe even pegged or discreetly screwed into from the inner faces of the legs) and the blind holes should be drilled to sufficient depth to avoid any possibility of the dowel breaking out under load. ■



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Shaker peg rail shelf

Anywhere **Peter Brett** hangs his hat is his home...

A trawl through my Shaker design library revealed individual small shelf designs and the classic peg rail designs, but, as far as I could tell, no combination of the two. This leads me to believe that the shelf and peg rail combination is a modern take on the Shaker aesthetic. But I think it may be one the Shakers might have approved of. Well-made versions fulfil both the Shaker criteria of being beautiful and useful.

The design is also very flexible – the shelves can be of any reasonable length as long as they can be supported – and the peg rail and peg spacings are adjusted to suit the length of the shelf. Finally, this design is easy to make. Set aside an afternoon with all the correct tools and materials and you will have something to show for your efforts.

Joining techniques

It is possible to use stopped halving

joints and glue, or simply butt joints and wood screws, but I prefer to use Miller dowels. These are available from good tool shops and online. They come in various lengths and timber types – for smaller projects I tend to use the medium-sized ones. You will need to buy the appropriate size of stepped drill bit, which is a bit pricey – blame exchange rates, because that is the key to the whole Miller dowel system.

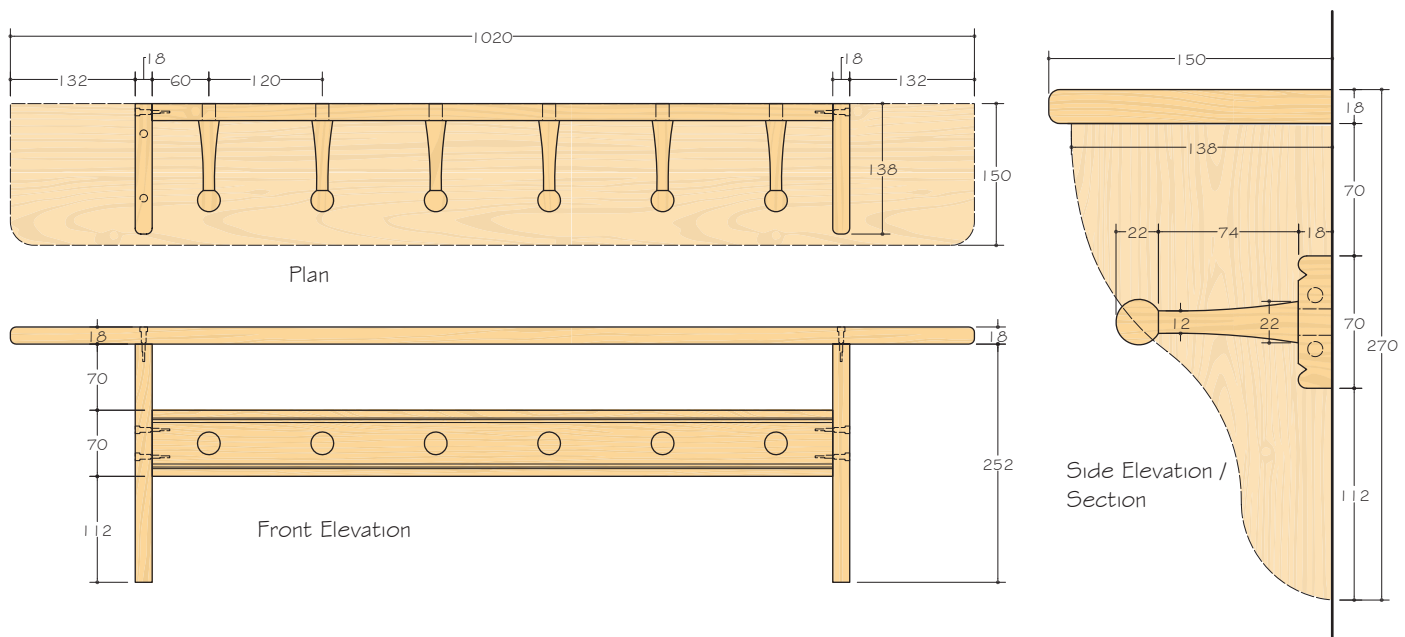
Materials

I made a few of these shelves from a recycled oak bookshelf, but the project can be made in any half-decent timber. Those without machining facilities can easily find soft or hardwood sizes at a commercial timberyard. With a shelf length of up to 90cm, timber about 15-18mm thick and 150mm wide is perfect. Any longer and you may need thicker material to support the span

and potential weight that the shelf might carry once it is on the wall. Truth is, this design is so flexible that shelf widths, lengths and thicknesses are very much the choice of the maker. Probably the only important parameter is the spacing of the shelf supports.

Shaker-style pegs.

A moderately skilled woodturner could turn out half a dozen in an hour or less and there are many designs illustrated in books and on the net. Because I seemed to have many requests for Shaker shelves I resorted to buying them from a UK online supplier. This has the advantage that all the pegs are pretty much consistent in size and saves a lot of time if this is a weekend project. Make sure that the peg size you choose is correct – they come in three sizes. Long shelves will need the bigger size, while for smaller ones the middle size is best. ➤



Prepping the Components

Shelf and supports

Decide the length of the top shelf needed by measuring the space where the shelf is to fit. If the shelf is under about 1.2m long, then only two shelf supports are needed. Any bigger and you will have to consider more. Cut to length and round the two front corners of the shelf to taste.

There doesn't seem to be any particular pattern of shelf support for this shelf. I used a piece of card the width of the support to draw various designs until I felt happy with it. As a Shaker piece, the usual advice is, the simpler and more elegant the better. Cut the design from the card and then use it to mark the supports ready for cutting out. This can be done with a jigsaw, coping saw or bandsaw. I usually tape the two pieces together for cutting and then use a sanding bobbin in a drill to smooth off the edges and ensure that they are as similar as possible. The front edges of the shelf and shelf supports are then rounded off. I used a router with a rounding over cutter, however a sanding block and various grades of abrasive is a slower, but equally satisfactory, solution.

Peg mounting rail

The final component is the peg mounting rail. I usually use a piece about 18mm thick and 60-75mm wide. It needs to be accurately cut to length to fit exactly between the shelf



The two shelf ends marked out using a cardboard template



The peg rail has rounded edges and V-grooves done with a router

supports when they are attached to the bottom surface of the shelf so, for this reason, it is probably better not to cut this until the shelf supports are attached.

Classic Shaker peg rail mounts have a rounded edge and a V-groove on top and bottom. These are easy to achieve with the right cutters and a router, but less so without. In which case, it may be easier to simply round off the top and bottom edges with a sanding block or block plane.



The four basic components – the design is simplicity itself



Checking the correct positions for the shelf ends – the peg rail will be cut down

Spacing the pegs is a matter of taste again, but it is important that they look right. Try for an uneven number of pegs with the distance between the outer pegs and the shelf support roughly half the distance between the inner ones. I find that it helps to find spacing by standing the pegs on the backing rail and moving them by eye until I find a pleasing symmetry, and then measure and mark the positions accurately.

The best way of drilling the peg

holes is with a saw-toothed Forstner bit in a drill press, but it can be done accurately enough with a power drill, the right-sized drill bit and a try square, and maybe another pair of eyes for guidance. With all the components ready cut to size and shape, it is easier to finish-sand them before assembly.

Assembly

Once the positions of the shelf supports are marked using a try square and pencil, there is a situation where three or four hands would be a solution. Barring the extra hands, I used a mitre clamp to hold the shelf support in position on the shelf ready for drilling the Miller dowel holes. I have also used a single screw to hold the shelf support while I drilled the first Miller dowel hole, located the dowel, and then removed the screw. Using the screw hole as a guide, the second Miller dowel can then also be located and drilled before gluing them in and gently hammering them both home. This is repeated on the opposite shelf support.

The peg backing rail with peg holes is next. The pegs need some space on top of them for effective hanging function, so it is probably not a good idea to fix it directly under the shelf – although that is easier. It usually sits a bit further down the inner sides of the shelf supports and, again, locating by eye for a good proportion is advised. Two Miller dowels into the rail from each side is enough for a secure fix. Again, a mitre clamp is helpful to hold pieces in place while drilling. Glue in the pegs and gently hammer them home with a mallet and the hard work is done.

Finishing

A quick run over with a sanding block and 240 grade abrasive to remove any dings or scratches is recommended before applying any finishes.

Oil, paint, wax, stain etc. are all potential finishes. I have even sent some out with just a sanded finish because the recipients wanted to match up with existing pieces.

The shelf does look good with a Shaker-style painted finish in any of the muted greys, whites and blues that are currently in vogue.

The shelf can be hung via a couple of keyhole hangers screwed to the back shelf or a pair or more, depending on the length and weight, of countersunk screws through the peg rail itself. ■



Miller stepped dowels are a very effective method of jointing



The dowels are glued and tapped firmly into place



A saw-tooth Forstner bit in a pillar drill is the most precise method



A flush-cut saw takes care of the projecting dowel ends



Each peg is tapped home, checking it is standing perpendicular



A mitre framing clamp holds the shelf end while dowel drilling



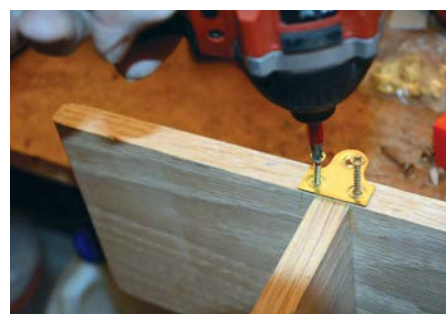
Assessing the correct spacing for the pegs before drilling



The peg rail can now be drilled and dowelled in place



The peg ends are lightly brushed with aliphatic resin glue



Finally, mirror brackets are added for safe, easy hanging



PHOTOGRAPH BY PAUL ADAMSON



Shrink cup – part II

Paul Adamson now completes the shrink cup that he started in the last issue

Creating a V-cut

1 Continuing on from the first part of this tutorial on what are often called shrink pots but in this case is a shrink cup. We need to thin the walls of the cup down with a curved knife. Aim for around 5mm thickness.

2 Once this has been completed, the next job is to make a groove around the inside edge of the base, approximately 5-7mm up from the very bottom. I use a small Flexcut scorp for this job, but you could use the tip of a knife to create a V-shaped section. You only need to make this groove shallow,

as it is just to help with the location of the base insert piece in combination with the shrinking effect of the green wood.

Making the base insert

I try to make all the sections of the work that I do, so the wood for this section was an old board of lime that I had been saving for fire-lighting demonstrations. The long section of log had been split into a rough board, and then refined and thinned to 5-7mm using an axe, followed by a drawknife and shave horse.

This section of wood was fully

seasoned and dry before fitting. This is so that this moves very little as the green wood of the hollowed log shrinks around it when drying, locking it into position.

3 Place the cup on to the board and draw a pencil line around the inside of the inner edge.

4 Cut close to but not along this pencil line using a coping saw.

5 Offer this section up to the bottom of the cup, and work out where it needs to be trimmed down so as

to fit snugly into the hollowed cup. I do the trimming with a simple Mora woodcarving knife, using the veg peeler grip.

6 The base should only require a gentle couple of taps with the base of the knife handle to locate it into the groove. Once located in the groove it needs to be slightly loose, as the walls of the cup will shrink a little more than the space that is there. Too tight and the walls will split.

The cup will be dry and the base locked in tight after a couple of weeks at room temperature. Check the progress every now and then by looking for light gaps, and monitor how they are closing up. Finish off in a warmer place by the fire or radiator, to make sure it's fully dry.

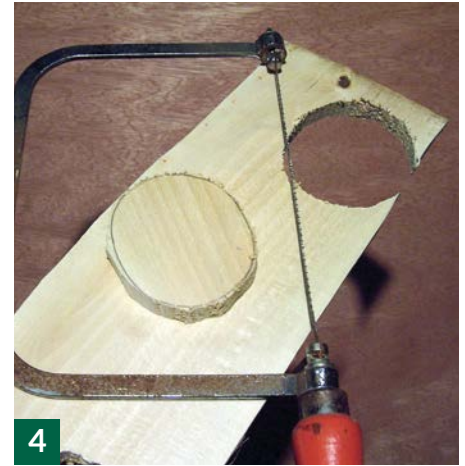
7 To fully seal the join of the insert I use beeswax. Simply melt in a saucepan, then pour a small amount inside the cup and swirl it around the inside joint.

8 Repeat on the other side of the joint once the inner wax has set hard.

9 The only thing left to do now is to add a finish of some sort. Just a wipe over with food-grade curing oils such as flaxseed or walnut will be fine, but for this cup I'll introduce you to non-toxic natural milk paints. I make these up from basic ingredients all easy to find on the internet. The white powder in the picture is a slaked lime mixed with casein, which is obtained from milk curds. This gives the adhesive and strength qualities any paint requires. The only remaining requirements are pigment and water for application. The colours are natural ochres in powder form. Mix a similar quantity of pigment to the white powder, and add a small amount of water to form a paste. Thin with more water to form a paint. I normally add one coat of just the white first followed by one or two coats of colour.

10 Leave to dry, and then add some oil or wax to bring it all to life.

All done and ready to use. I hope you enjoyed this simple woodcarving project, and that you might find time to give it a go. These practical cups last for years and make an interesting display and talking point for guests in the kitchen once several are made. ■



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KITTED OUT

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

Tighten up and power up with Bosch 3D accessory fixing

The Starlock system is said to add powerful versatility to oscillating multi-cutters.

The Starlock system, developed jointly by Bosch and Fein Bosch, is a much superior alternative to OIS (Oscillating Interface System).

The Starlock 3D interface holds accessories tightly and ensures 100% power transfer. As well as improving the multi-cutter's speed, effectiveness and precision, that transfer efficiency reduces energy consumption, which is especially important in the case of battery-powered tools. Without 'wobbling' pins, the tool and its accessories also last longer. With the completion of its latest range of oscillating multi-cutters, featuring the Starlock 3D accessory interface, Bosch says it is now time for trade professionals to move away from OIS.

Made for a variety of tricky situations, the side-to-side motion allows accurate, highly controlled cutting, grinding, scraping and sanding – often in confined spaces which a rotating tool cannot reach.

Essential to the Starlock system's adaptability and effectiveness is the expanding range of Starlock accessories.

- Starlock – for everyday use
- Starlock Plus – for deeper cutting
- Starlock Max – for heavy-duty applications



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Bosch GOP 30-28 – SL and SL Plus

Bosch GOP 40-30 – SL and SL Plus

Bosch GOP 55-36 – SL, SL Plus and SL Max

Prices start from £192.00 for GOP12 V-28 (bare unit)

www.bosch-professional.co.uk

Mascot Advanced lightweight stretch jacket

The jacket is made of a newly developed four-way stretch material, which is also extremely strong and lightweight. It follows the movements of your body and arms, provides protection against wind and is water repellent. The jacket does not have a thick lining that bulges and restricts movements. Instead it is close-fitting and consists of a light mesh lining



with a light and flexible outer material that keeps the wind out. To protect from the cold the jacket has a tight-fitting high collar, a storm flap at the zipper and a slightly extended back.

The jacket is made for high activity all year round with good breathability as well as ventilation under the arms and at mid-back so you can get rid of the heat.

It has hook and loop fastenings at the wrists and on the chest, and there is a mobile phone pocket with magnetic closure, along with a removable ID card holder. For visibility in dark environments there are reflectors integrated in the design. The front pockets, chest pocket and internal pocket are closed with a zipper so contents can easily be kept safe.

The stretch jacket is part of the newly launched Mascot Advanced range, bringing new colours, such as petroleum, into the assortment. The range is based

on flexible and lightweight products with innovative integration of pockets, details and features to be used in construction and crafts. The jacket's outer material is the same as that of the range's popular trousers.

The Mascot Advanced 17101 jacket is available in sizes S-4XL and in five colours – dark navy/black, white/dark anthracite, black/dark anthracite, black/dark petroleum and moss green/black.

Prices from £142.08

www.mascotworkwear.co.uk



The Ant from AntCraft – new multi-purpose hot craft tool

The first in a family of new products, the Ant is an innovative modular system that comes equipped with five different tips and adapters to get you started in almost any hot craft task. The toolkit includes a mini iron, pointed, script and calligraphy tips for foiling, stencil and pyrography work, as well as a flat gem tip with more than 50 additional tips available separately.

The AntCraft Suretip™ system allows tips to be switched fast, even when hot, using the tip puller, leaving more time to focus on creativity and design – no need to wait for your tool to cool.

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The Ant £69.99
www.antcraft.co.uk



The Niwaki Combination Stone

The #1000/3000 Combination stone is very possibly all you'll ever need for looking after your kitchen knives, pocket knives and even garden tools. #1000 is perfect for regular sharpening, then move up to the #3000 for finishing. Soak in water for a few minutes before you start, and you're away.

Niwaki is throwing in a **FREE** twirly red hanky with every Combination Stone with this month's special reader offer. Please visit: www.niwaki.com/WWCMSTONE That's how the Japanese do their sharpening – with a flannel or hanky as a base to keep things tidy and stop the stone slipping.

Get the stone, get the hanky, get sharpening.
#1000/3000 Combination Stone £36.00
www.niwaki.com



Trend Snappy test

Trend has gone to great lengths to increase the range and versatility of the Snappy system. The concept is really simple – take the standard hex driver bit and socket and make it the basis for almost any rotary tool that will fit. Others have tried it but Trend has made the most of this idea. In theory perfect, but is it so in practice?

To start with you need a Snappy chuck. There are various chucks for different purposes and they accept various rotary bits in the system. The one we tried is quite a large diameter with a sprung collar to unlock the bits that 'snap' into it. It suits the larger rotary elements of the system. If you want to use standard 25mm driver bits you will need a smaller, slimline chuck for screwdriving.

A key 'driver' to making this system work is being able to drill before screwdriving. So Trend has a range of drills for dowels, masonry, glass, pocket hole, stepped drills, etc. Add to that flat bits, hinge bits, augers, Forstners, countersinks, plug cutters, a holesaw, drill bit guides, engineering bits including snail bits which are great for countersinking wood and nut drivers – well you get the idea, the possibilities seem pretty much endless.

Verdict

I had a bit of fun trying out various Snappy elements and yes they did work – even the drill bits stayed quite well centred when drilling holes. The holesaw is a bit basic.



I always buy single dedicated versions and you are limited to what Trend currently supplies in each tool category but it is pretty extensive and, of course, you can add any other compatible hex fitting tools from other manufacturers. Trend even has some Centrotec-compatible tools for Festool users. If you get fed up with the whole 'chuck-unchuck' procedure then Snappy is the way to go.

Example prices

Standard Quick Chuck SNAP/QC £13.81

Drill Set – TiN coated drills and brad point drills SNAP/HD1/SET £26.16

Countersink set imperial SNAP/CS/SET £31.44

Rotating Depth Stop for countersinks SNAP/ROT/DS £20.34

One Touch Bit Holder 150mm SNAP/BH/OT/A £11.94

Glass Cutter Drill – various sizes from 3mm to 12mm (example 6mm £8.42)

Visit: www.trend-uk.com



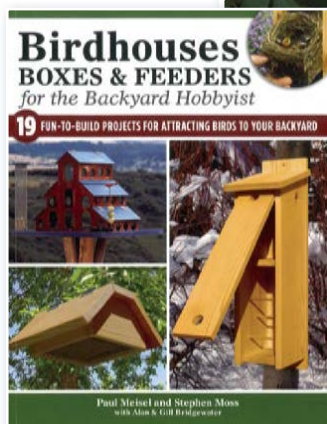
BOOK REVIEWS

This latest book selection made the **Editor** feel quite chirpy

Birdhouses, Boxes & Feeders for the Backyard Hobbyist

By Paul Meisel & Stephen Moss
with Alan & Gill Bridgewater

This book has no fewer than 19 fun-to-build projects, as it states on the cover. There are sections on making your garden bird friendly, bird food, bird predators, tools and working methods. There are some diverse projects, such as a bark bat box, a duck house, Japanese bird bath and a rustic bird feeder, to name just a few. It is an American book but, although it names different species, these projects will suit UK nesting birds – just check the RSPB website for things such as aperture sizes needed by specific birds. Good fun and some different ideas to bring our feathered friends into our back gardens.

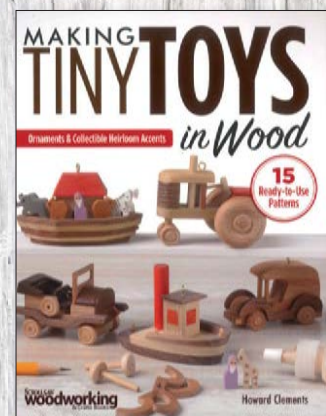


PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Making Tiny Toys in Wood – Ornaments & Collectible Heirloom Accents

By Howard Clements

The projects in this book don't require lots of tools – a scrollsaw and a drill press are the most important ones. As the title states, these are small projects meant to be fun and rather cute. There is some useful advice on using materials and tools, especially dealing with scrollsaw blade problems. There are 15 projects with patterns, examples are – windmill, bread truck, Noah's Ark, tugboat and locomotive. Many of these projects come with a hanging loop and all have 1:1 patterns which you can copy straight off the page. If you like working with very small components then you will be right at home with this book.



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Wilderness Wood

If you go down to Wilderness Wood today, you're in for a big surprise as **Anthony Bailey** discovered...

Meet Emily and Dan, for the past three years, owners of a woodland wonderland called Wilderness Wood and their three children, Frank (13), Nina (12) and Alexandra (8). This isn't any old wood – it's a very special place where enterprise and education, family and friends work together in a co-operative way for everyone's benefit. It's a place where all kinds of people of all ages have the chance to work and play in a delightful area of the Sussex Weald – and you're invited too...

Saving and nurturing a woodland

In 1980 the previous owners, the Yarrows bought an unloved woodland and created a successful forestry enterprise and a popular place to visit for schools and families. Sixty two acres of chestnut coppice with stands of beech, Scots pine, Douglas fir, cedar and giant sequoia.

Scroll forward 34 years to 2014 and the Morrish's build on the Yarrow legacy by offering the wood as a base for a collection of small enterprises, including woodland products, a forest school, café, camping, events and a community of woodland members who share their skills and energy in exchange for use of the woodland for work and fun.

Extended family

The wood is also a family home for the Morrish's and various enterprises based at the wood which are all family-run; Rachel Sander who runs the café involves her whole family on busy days; Andrew Coates kids are often on the dumper truck helping their Dad move wood around and Lucy, who runs the Forest School, is now bringing her new baby along to be part of it all. The 'home-team' of people living and working at the wood includes apprentice, Jake Reed, who was the

constant energy behind the cook-house (nicknamed the 'Witch's Hat') and a writer-in-residence, Joe Skelton who is currently writing and rehearsing a play for the Winter Solstice event and a rolling cast of short-term volunteers, thanks to the WWOOF movement that matches volunteers to opportunities working on organic farms.

Working with a plan

The Yarrows gave the Morrish's a head start – forestry is a long-term exercise and Dan has been able to continue using the original Woodland Management Plan while, at the same time, instituting a variety of changes and improvements to the site, making it even more accessible, enjoyable and productive. However, some parts of the original plan, such as its heavy emphasis on forestry, are proving counter-productive – for example, narrow access between stands of trees instead of wide, managed rides. So the



Left and above: constructing the cook-house and the finished building (right). The peak is the chimney for cooking



Dan and young volunteers fence building



tracks get chewed up and very muddy during the winter months and wildlife isn't flourishing as it should. The long-term aim is to open the woodland up, allowing biodiversity of plants and bird life to develop, with walkers no longer needing to avoid mud and trampling on the precious verges.

Hard graft

Three years in and the plans for developing the site are definitely moving forward – but it is very much hard graft. It is a united, communal effort that makes it all possible, with Dan very much involved with heavy construction work, not just leading the rest of the team, while Emily is more behind-the-scenes running the business, bringing in new members and cooking the lunches. All the enterprises at the wood contribute to 'pay the rent'. Plans to create additional overnight accommodation will bring in much needed additional income, but the costs of running the site are high, as you might imagine.

'Limboland'

One of the things Dan remarked to me was: 'We don't really have proper names for things. We are short of names.' I asked him to explain what he meant and he replied that because of the multiple and changing use of various areas of the wood and the fluidity of different people's roles, we're sometimes not sure what to call things or people. Jake and Joe have named the area where they are based 'Camp Limbo' to reflect this feeling.

Buildings for the future

The site came with a detached brick-built house where the Morrish's live with its essential Esse woodburning stove and, nearby, a timber-built shop-come-café. Since they have been there other buildings have been developing. The cook-house is an open-air, covered wooden structure for cooking, meeting and eating. Another pitched-roof wooden building called the Meeting House now boasts a 'rocket mass' type bed under the woodburning stove, ➤



Above: The skeleton of the new shower block under construction in 'Camp Limbo'
Below: An existing shepherd's hut





which will store the flue heat long after the fire has died down. It has now been licensed for wedding ceremonies. Initially this building proved to be too far up the slope, so some ingenious work, muscle and tractor power were needed to skid it down the slope to a better position – an interesting task that thankfully succeeded as planned. New huts for the apprentice and writer-in-residence are nearly complete and elevated wooden cabins for visiting families are in the pipeline based on traditional Spanish grain stores, or ‘hórreo’, to be built on a slope near the shepherds’ huts. Already nearby is a spacious timber shower and toilet structure lurking in the trees.

Dan’s plans to install the

revolutionary form of ‘rocket-mass’ heating will produce tons of hot water very quickly ‘off grid’. Mains water pipes are already in position for the new buildings. Sanitation is needed to support all this activity and human occupation. The existing cess tanks couldn’t cope with the demand so, after consultation with experts in this subject, the group has dug out space for a reed bed and a small overflow lake beyond. The reed bed contains sand which filters the water, then the reeds clean it up. Once they have worked their magic the water then runs into the lake and from there the safe water is fed back into local water courses. A very ecologically sound method for dealing with foul waste.

A lot of earth was mechanically excavated during this construction process and, rather than being taken off site and dumped elsewhere, it was moved up the hill to an area where camping takes place in the summer months, being used to create a stepped feature for camping in tents.

Wilderness Wood membership

The emphasis on WW is on getting involved and the membership scheme reflects this ethos. The members are the extended team as well as enjoying access and various benefits. There are regular working parties including a week long camp in the summer to carry out maintenance tasks and progress new projects. There are also ‘real’ parties to celebrate the changing seasons with an annual May Day and Winter Solstice party.

There are discounts on camping, yurts and shepherds’ hut stays, forest



Left and above: Winter Solstice party



Children's activity day

school activities, arts and crafts etc. There is a monthly email letter and hard copy *Wild Times* three times a year. There is always something going on and there is a lot of emphasis on cross-generational activities.

The wider community

Emily and Dan are determined that Wilderness Wood should not be an island. They work with and encourage interaction with local schools through Lucy's Little Forest School, based on site, and also with colleges, which frequently bring groups to work and learn practical skills. The general public can visit during café hours and are asked to give a 'Pay-As-You-Feel' contribution to the upkeep of the woods.

Child's play

Visiting Wilderness Wood is an amazing experience, a chance to get close to nature, to work, to play, to learn and have fun. A great place for children and adults to enjoy different experiences in a place of natural beauty. If you want to find out more about this magical place visit: www.wildernesswood.org ■



Dan extolling the virtues of the reed bed sewage treatment



About Emily and Dan

Emily Charkin is a researcher who likes to make things happen. After her first degree in history at Cambridge University, she worked as a teacher in Italy and Spain, a researcher at the National Centre for Social Research and a curriculum director for the civic leadership charity, Common Purpose.

After her second child was born in 2005, she went back to university to do a MA at the Institute of Education in London. Since then she has researched and written about people and places which challenge our assumptions about children, education and social change and offer alternative paths for the future. She has written about the view of the child in anarchist* learning communities such as the Peckham Health Centre (1935-1950) and Whiteway Colony (1898-today) and the ideas of radical writers such as Leila Berg (1917-2012), Colin Ward (1924-2010) and John Holt (1923-1985).

**Anarchism is a political philosophy that advocates self-governed societies based on voluntary institutions. These are often described as stateless societies, although several authors have defined them more specifically as institutions based on non-hierarchical or free associations. Anarchism holds the state to be undesirable, unnecessary, and harmful.* (Source – Wikipedia)

(Editor's note – Society generally only appears to understand the alternative interpretation of anarchy as purely destructive behaviour, which anarchism definitely is not)

Dan Morrish, grandson of a timber merchant, son of two musicians, has always built. While still at school he built a studio in his parents' back garden, using reclaimed timber and local help; before University it was guest cabins in a fishing lodge in the Okavango River Delta in Botswana; after his degree there was a sailing boat in a marina outside Hong Kong; and, after his diploma, there were the schemes he designed with architecture colleagues.

Since joining the architecture profession, he has designed domestic and commercial projects of increasing complexity and scope. But his practice was leading him to spend ever more time in front of a computer, and ever less with building materials. Professional experience confirmed his original instincts – that participation is more effective than consultation, that design decisions are best made on site by craftsmen who have intimate knowledge of the context and materials, that the best materials are often those to hand. To quote Christopher Alexander, 'the separation of the role of architect and builder does organic damage to the fabric of buildings and society'.



Outdoor work is exhausting

Meet the contributors...

We put all of this month's professional and reader contributors here, so you know exactly who they are and what they do

Louise Biggs

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

Web: www.anthemion-furniture.co.uk



Peter Brett

Peter has a background in teaching and trade journalism. Leaving teaching behind a few years ago, he has concentrated on designing and making as well as developing a wider range of trade skills. But he is always on the lookout for a well-designed new tool that will make life easier.



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, Adam fireplaces, bookcases and reproduction furniture.

Web: www.sawdustandwoodchips.com



Paul Adamson

Paul Adamson runs green woodworking courses in his native Derbyshire and likes to hand carve and use woodenware from the green wood he gathers during local woodland management works. Bushcraft, spooncarving and kuksa vessels are among the many things he enjoys teaching out in the local woodland.

Web: www.pauladamsoncraft.co.uk



Simon Rodway

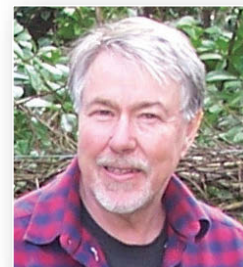
Simon Rodway has been an illustrator for our magazine since 'the dawn of time' itself, drawing on his experience in the field of architecture. He also runs LineMine, a website with articles and online courses on drawing software. A new course, SketchUp for Woodworkers, is proving really popular.

Web: www.linemine.com/courses



Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently 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.



Your face and details could appear here in our 'rogues' gallery' if you write an article for the magazine, and you could be rewarded for your efforts too.

Editor **Anthony Bailey** Email: anthonyb@thegmcgroup.com, Designer **Jan Morgan**, Head of Woodworking Design **Oliver Prentice**, Senior Editorial Administrator **Karen Scott**, Illustrator **Simon Rodway** (www.linemine.com), Chief Photographer **Anthony Bailey**, Group Editor, Woodworking **Mark Baker**, Production Manager **Jim Bulley**, Production Controller **Amanda Allsopp** Email: repro@thegmcgroup.com, Publisher **Jonathan Grogan**, Advertising Sales Executive **Russell Higgins** Email: russellh@thegmcgroup.com, Marketing **Anne Guillot**, Subscriptions **Helen Johnson** Tel: 01273 402 873 Fax: 01273 478 606 Email: helenj@thegmcgroup.com

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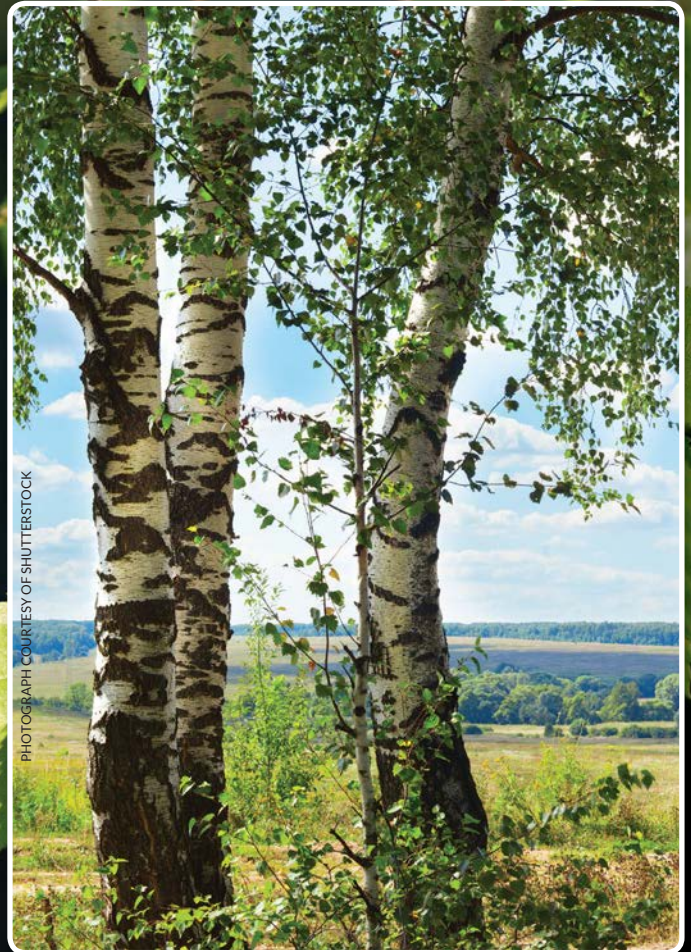
Trees for life – birch

A tree with an unmistakable appearance, both beautiful and worthy, a delight in the garden and a 'weed in the wild' – the birch

Like most tree species, birches are all members of a much larger family – numbering more than 50. Common to many of them is the familiar silvery white bark that makes them stand out in a forest. Their propensity for survival means they take root easily and many a disused railway embankment can be found with birches growing where once steam trains passed. The birch is, in fact, a most versatile, usable tree with its own share of cultural and spiritual significance.

Birches are found in northern or far northern temperate conditions, such as Scandinavia. Significant examples are the silver birch (*Betula pendula*), the downy birch (*Betula pubescens*) found in Scotland and the paper birch (*Betula papyrifera*) found in North America. The famed decorative Masur or Karelian birch wood is not a species but the result of disease in either the silver or downy birch varieties, creating a beautiful timber. Masur birch found in Norway has, however, been shown to be hereditary, thus classifying the name of the variant as *Betula pendula* var. *carelica*.

A typical tree can reach 30m high, forming a light leaf canopy with elegant drooping branches. It has simple serrated leaves growing on branchlets. The fruit is a samara, which means it has wings to aid dispersion. The female catkins disintegrate at maturity to disperse the seed. The bark has long, horizontal lenticels, or splits, which result in the bark often separating into papery plates. The flowers are monoecious, meaning they exist on the same tree as the seed and the fruit. ►



PHOTOGRAPH COURTESY OF SHUTTERSTOCK



PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Birch leaves

Did you know?

The name birch is derived from Old English 'birce' and 'bierce' and even earlier Proto-Germanic, from the expression 'to shine' referring to the brightness of the bark on the trunk



PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Pendulous birch catkins

Typical uses

Birch wood is fine grained and pale in colour, often with an attractive satin-like sheen. Ripple figuring in the grain may occur, increasing the value of the timber for veneer and furniture making. The highly decorative Masur (or Karelian) birch has ripple textures combined with attractive dark streaks and lines. Birch plywood is among the strongest and most dimensionally stable of plywoods, although unsuitable for exterior use. It is used to make skateboards, giving a strong yet flexible ride. It is also used in very thin grades with many laminations for making model aircraft. Apart from plywood it is suitable for a variety of domestic wares, such as brooms, brushes, kitchen implements etc. It is also suitable for making paper and has been used this way for many centuries.

Extracts of birch are used for flavouring or as leather oil, and in cosmetics such as soap or shampoo and for dyes. In the past, commercial oil of wintergreen – methyl salicylate – was made from the sweet birch, *Betula lenta*.



A birch box with half-lapped dovetails

PHOTOGRAPH BY
GMC/ANTHONY BAILEY



Sideboard in
Masur birch

PHOTOGRAPH BY GMC/ANTHONY BAILEY



Familiar
curl of
detached
birch bark

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Birch tar, or 'Russian oil', extracted from birch bark is thermoplastic and waterproof; it was used as a glue, for example for arrows.

Ground birch bark fermented in sea water is used for seasoning the woollen, hemp or linen sails and hemp rope of traditional Norwegian boats.

Birch is frequently used as firewood when it burns without popping and gives a good calorific output, even burning while still green due to the oils it contains. In thin split layers it is good for starting fires.

Spirituality

Birches have spiritual importance in several religions, both modern and historical. In Celtic cultures, the birch symbolises growth, renewal, stability, initiation and adaptability because it is highly adaptive and able to sustain harsh conditions with casual indifference. Proof of this adaptability is seen in its easy ability to repopulate areas damaged by forest fires or in clearings.

Birch is associated with the feast of Pentecost in central and eastern Europe and Siberia, where its branches are used as decoration for churches and homes on this day.

The birch also features in Irish folksong and ballad and elsewhere, too.



Snowy white trunks of birch

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

Timber conversion

It needs to be dried rapidly to avoid fungal attack and it is susceptible to wood boring by the common furniture beetle.

Working characteristics

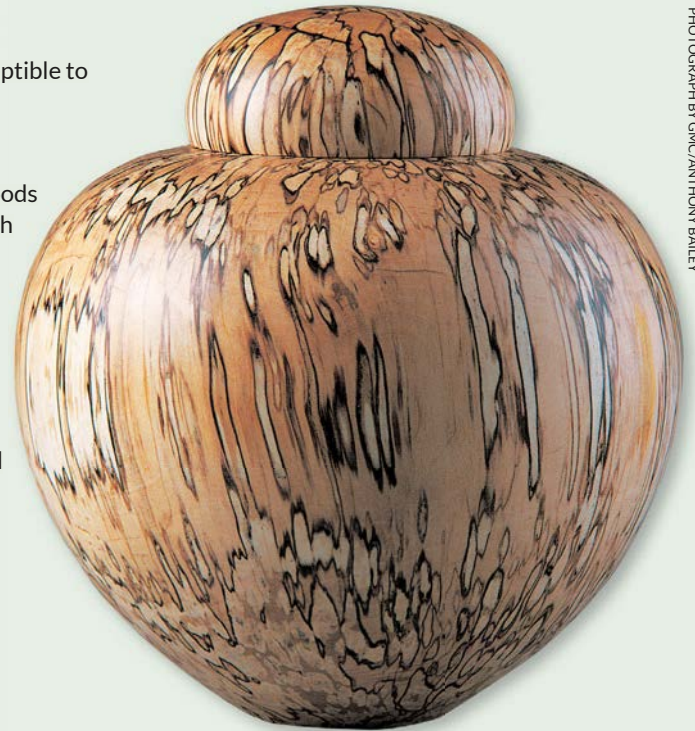
A creamy white to pale brown timber, the birches are heavy woods with medium strength and not good for steam bending, although in very thin plywood form it can be very flexible. It has a moderate blunting effect on tools and is easier to machine than work by hand. A reduced cutting angle for planing is advisable to prevent tearout. Pre-boring for screws and nails is essential. It takes stains and polishes well and is excellent for turnery.

PHOTOGRAPH COURTESY OF SHUTTERSTOCK



Right: A spalted birch container by Mark Baker

Left: Splitting a birch log for firewood



PHOTOGRAPH BY GMC/ANTHONY BAILEY

PHOTOGRAPH COURTESY OF SHUTTERSTOCK



Birch juice used as a vitamin drink

Food and medicinal use

Fragrant twigs of silver birch are used in saunas to relax the muscles. Birch oil has medicinal properties as a tonic, disinfectant, stimulant, antidepressant, analgesic, detoxifier, anti-rheumatic, anti-arthritic, antiseptic, astringent, germicide, insecticide. Birch syrup is used on pancakes and birch is ideal for smoking foods.

Diseases

The birch leaf miner larvae burrow into the leaves for nutrient. It rarely kills a tree but can disfigure and weaken it. The more lethal bronze birch borer is difficult to control. The beetle larvae's boring activity kills the tree by stopping the vital flow of sap.

Although the ash tree is incredibly versatile in its useability, it is perhaps outshone by the birch family, which can provide a wide array of valuable assets, from firewood to food to pharmacy to furniture.

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS



Thick bark splitting

Did you know?

Baltic birch has a natural resonance in high and low frequencies, making it ideal for loudspeaker cabinets. It has also previously been used for making drums.



Dappled sun on birch leaves

PHOTOGRAPH COURTESY OF SHUTTERSTOCK

If you want to learn more about this amazing family of trees and their uses there is a lovely book called *Celebrating Birch*, published by Fox Chapel Publishing, available from a number of UK online bookselling sites. New, it is very expensive, but half the cost if bought secondhand. ■

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is more



Simple steps to carving **Bramble leaves**

Andy Hibberd takes you through the steps needed to create decorative bramble leaves

It's easy to forget when walking room by room through the carved magnificence of an opulent stately home, or craning your neck when trying to pick up some detail of a carved stone boss high up in the cathedral space, that the use of plants in ornamentation is by no means the preserve of these buildings. We are, in fact, surrounded by plant images the whole of our lives – in every city or town we visit and in every room we enter, an image of a plant in one form

or another will be present. Subliminal advertising apart, it is good to know that man's obsession with flora is as strong now as it has always been.

My own obsession with floral carving, plant form and structure has increased over the years, due mainly to an improvement in my drawing and painting skills.

This has led to a parallel increase in the technical skills of carving and modelling through technique and practice, which hopefully means

You will need

- Lime (*Tilia* spp.) any size, 38mm (1½in) deep
- Bramble leaves
- Watercolour paint
- Chisel-ended brush
- Paper
- Black charcoal sticks or Conté crayon
- ½in No.11 gouge
- 1in No.1 gouge
- Shaped gouges to fit your own design
- Small V-tool
- Veiners
- Scalpel
- Finish of choice

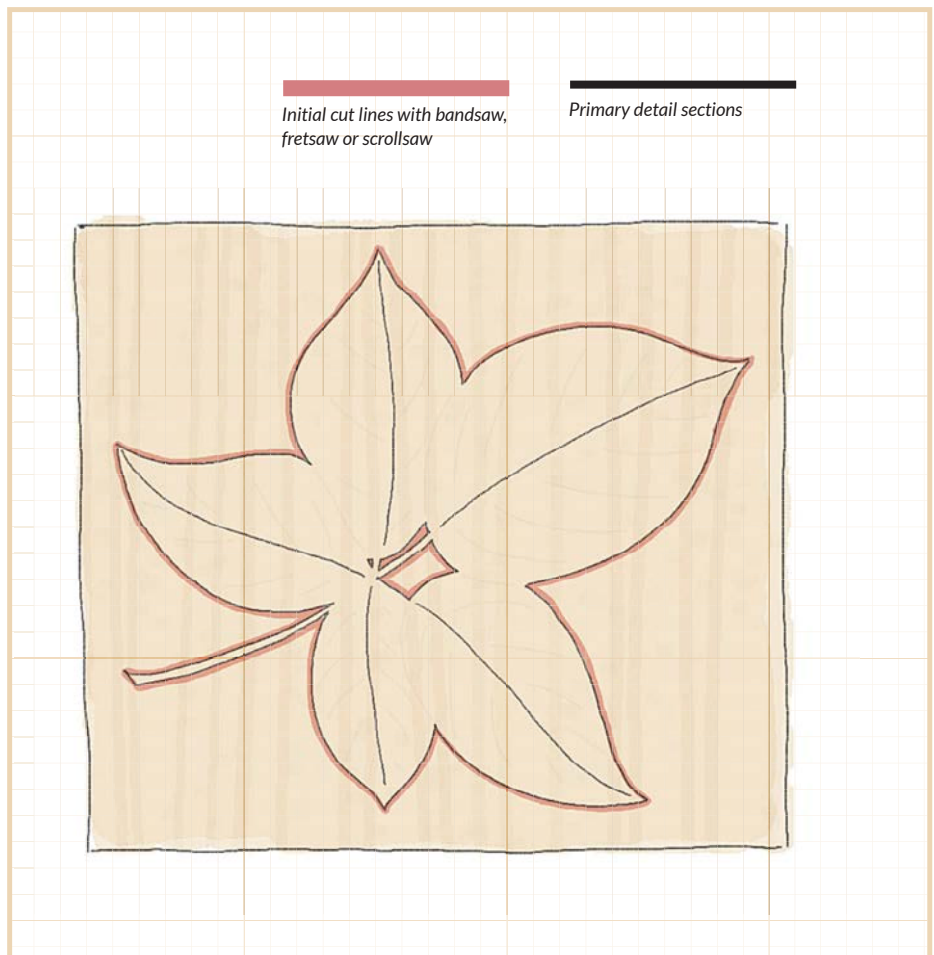
a far more satisfying and technically superior result. It has also kickstarted an interest in art sculpture and carving, and the need to explore past and current works in galleries, museums and churches. ►

The golden ratio

A fascinating subject to read up on is the link between the golden mean – the number 1.618 (Phi or Φ) produced from the Fibonacci series of numbers – and its link with nature. Fibonacci spirals are present in sunflowers, pine cones, vegetables such as cauliflowers, and very interestingly, in the leaf arrangements of trees such as oak, elm, lime and cherry. In the Renaissance period, geometrical shapes using the golden ratio were used extensively in buildings and architecture as it was believed – and still is, I think – that this ratio produces very pleasing forms.



PHOTOGRAPHS BY ANDY HIBBERD. DRAWINGS BY ROBIN SPRINGETT



Painting stage

1-2 For this project, I have decided to carve some bramble leaves. Do a series of quick, lively sketches. Focus on the stem and veins of the leaves, and be aware of the negative spaces between them. Think about the structure of the leaves and the skeleton – don't get bogged down with the outside shape. I used a chisel-ended paintbrush with watercolour paint to capture the movement of the leaves in a couple of strokes. With a minimum use of the charcoal stick, and starting with the veins, I quickly laid down enough information to allow me to get started.



1



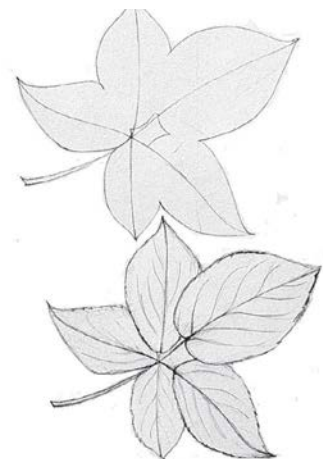
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3 Next, place the leaves on to a flat surface and look at the relationship that they have with this surface, as it will help you with the design. My charcoal drawing shows the thinking process of trying to understand how the concave and convex shapes of the leaves are started. High and low points are shown.



3

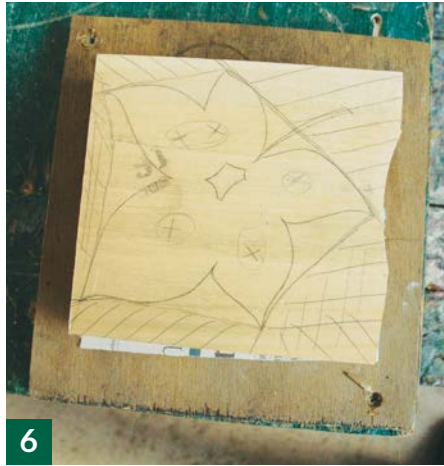
4 From your sketch work, you should be able to produce a line drawing of what you feel should be the final design.



4



5



6



7



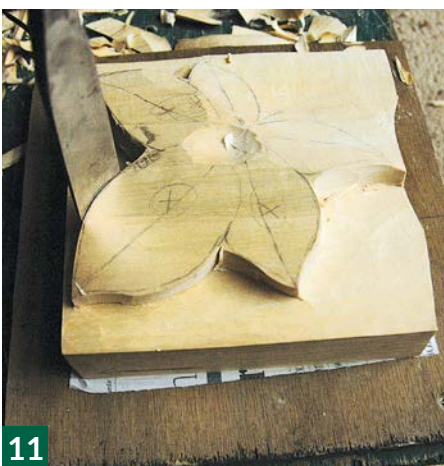
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11



12

Background removal

5 Use a suitable piece of the lime, at least 38mm (1½in) deep, with no obvious figure as it gets in the way of the carving detail. Trace the line drawing on to the wood and redraw accurately.

6 High points not to be carved are marked with an (x). A base line is drawn around the outside of the piece of wood, and an arrow defining the direction of the grain is marked. Vulnerable leaf tips are linked together and carved as one, for additional strength.

7 Using a very sharp scooped gouge, chop out large sections of the background wood. The shape of the gouge protects the carving edge, so be bold, but always in control.

Shaping the leaves

8 Using a large gouge, turn over and shape the leaves. As part of the design, and to remove any short grain problem, carve vulnerable leaf tips down to the base line. A helpful tip is to lay a straight edge on to a curve – this will show you the shape of the curve and how it falls away either side of the edge. The two main things that you would know about the carving at this stage are the high points and the low points – everything else is in the middle.

9-10 Scoop out a hollow where all the leaf stems join – this is the starting point. Using shaped gouges that fit the leaf shapes, start setting in the outside leaves and, at the same time, tidy up the base. The main thing to be aware of when setting in is to chop down straight at 90° to the base, with no undercut.

Separation of block forms

11-12 Using a small V-tool, start separating the leaves, but not removing the pencil line of the dominant leaf. This has the immediate effect of placing one leaf lower and behind the other. Reshape the lower leaf using the no.1 or similar smaller gouge. Redraw all the leaf centrelines and reinstate the junction where the stems will meet. ➤

13-14 Go back to your original drawings or leaves and study how the junction area works. The structure is small and delicate, so trying to emulate nature is probably not a good idea – using different angled chip cuts to introduce shadow is enough.

15 Don't lose sight of the fact, though, that whatever you do, the shadow lines should all flow together in a pleasing manner, and not be too straight or disjointed.

Modelling

16 Referring back to your original drawings and any real leaves you are able to study, it is now time to introduce some flowing convex and concave shapes to give the carving some liveliness. Using the no.11 gouge, keep looking at the whole carving from all different angles and planes while carving boldly.

17-19 If unfamiliar with this technique, one idea to try is to gouge a line of concave shapes side-by-side, about 6mm (¼in) apart then, using the no.1 gouge, turn over the middle section of wood between them. The edge profile should then look like a sine wave or 'S' shape. Use different parts of the gouge to change the profile of the curve, i.e. the flat side for shallower curves.

'Spend time looking at the magnificent foliage carvings in churches or stately homes'

Another idea is to practise the leaf separation stage. Chop out a few joined leaf shapes, separate with a V-tool and then, using the no.1 gouge, par a leaf into a convex shape, starting at the centre vein of the leaf and radiating out to the leaf edge, into the V-cut. With a sharp gouge you should be able to cut cleanly and not be affected by the grain.

In my opinion, the convex and concave modelling is the most important stage, and can make or break a piece of carving. Spend some time looking at, drawing and photographing some of the magnificent foliage carvings in our churches or stately homes. Try to see and understand how this type of modelling was executed.



Veining

20 Carefully redraw the leaves with all the veins present. Tidy up the chip-cut centre section.

21 In a controlled manner, carve the centre veins of the leaves from tip through to the junction. Don't be frightened to run the veiner all the way outside of the leaf edge structure into the stem junction, cutting into this delicate chip-cut area.

Carry on from this junction into the major stem and carve this. Be aware that the line from every leaf tip should run smoothly all the way through the junction to the end of this stem. Carve in the rest of the leaf veins. If you are really confident with the veining just go for it, if not, draw pencil lines on to the wood. If the gouge digs in a little bit and a small piece of wood breaks off, change the angle of cut slightly but keep going – this often leads to lively carving. Turn over the wood between the veins with a flat gouge if it fits the design.

Leaf edge

22 Look carefully at the outside edge of the real leaves and then draw a slightly stylised version on to your woodcarving. I have not drawn round every leaf, nor have I been overly careful in trying to keep them all the same.

23 The outside edge is then cut in using a skewed chisel, with a kind of rounded chip cut. At this stage, I would look at the overall carving and very quickly undercut where I felt it is necessary.

Finishing

All that's left to do now is to finish your bramble leaves – how you do this is entirely up to you. You may wish to leave it in its natural form, or apply two or three coats of finishing oil with a brush or cloth. I chose to keep mine unfinished in its natural form.

Once dry, it is ready to find a home somewhere on a wall, or as part of an outdoor feature. Enjoy. ■

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20



21



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23



24

Creating an 18th century hinge/knuckle joint

Michael T Collins makes a pretty good fist of this knuckle joint repair

Over the past month I have been restoring a beautiful drop-leaf cherry table. Most of it was intact and needed only a little restoration, but one element that really needed some help was the wooden hinge joint that had broken over its many years of use. The knuckle hinge allows the support legs to swing out so the loose leaf can then rest on top.

The knuckle joint in the photograph (right) is quite unusual. In this article

I will take you through the steps to make a more traditional hinge joint.

Preparation

Do not skip this step. Prepare the mating ends so that they are square. Even though this joint will rarely be seen, it's a good idea to cut the pieces from the same piece of wood. This has two advantages: 1) the wood's grain will be consistent through the joint and 2) seasonal changes will also affect all parts to the same degree.

Marking out

1 Lay out the joint in exactly the same way that you would lay out through dovetails. Take the width of the board and mark this on the four sides of each mating piece. If you have read my previous articles on making dovetails, you will know that I generally add an extra 0.5mm to the cutting gauge, however for this project do not add this – we want the layout to



The knuckle joint



Tools needed

- Square
- 20mm bevel edged chisel
- 20mm in-cannel gouge
- Thin kerf rip saw
- Cross-cut saw
- Marking knife and gauge
- Fine rasp
- 45 degree shop-made guide block

be exact at the outset – there will not be an opportunity to plane off any waste.

2 On the end of each face edge, draw the diagonals from the scribe line to the corners.

Repeat this on all four edge sides.

3 Next, draw a circle with a radius that is half the wood's thickness.

4 On the face sides, scribe another line where the circle meets the diagonals.

5 Score this line and make a V notch to guide the saw.

6 Saw down to the bottom of the diagonal.

7 Now, with a 45° guide, pare away the waste. Alternatively pare away vertically. Either way, the chisel must be razor sharp.

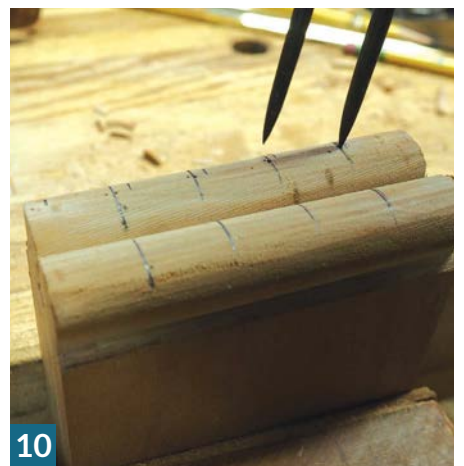
Forming the knuckle

8 The next step is to start forming the knuckle. To do this I used a block plane to create the barrel, but you'll need to be very careful not to split the ends of the wood. One technique to avoid this splitting is to place a sacrificial piece of wood at the far end of the workpiece.

9 Continue to plane until the desired shape is achieved. You will need a rasp file and sandpaper to fine-tune the shape.

Hinge layout

10 The next step is to lay out the knuckles. There is no set number of knuckles in this joint, however, having only one on each side would create a weak joint. ➤



The minimum number of joints you might expect to see is three-two, although on the table I am restoring there are five-five. It's a careful balance – too many knuckles and you will create a weak joint (woodworking is always a compromise). Regardless of the number and pattern you choose, use a pair of dividers to mark off the number of knuckles.

11 And mark the waste to avoid any mistakes.

12 You could cut the knuckles before planing, but you would need to insert shims in the saw kerf so that each knuckle doesn't blow out. Ouch.

Saw on the waste side of the knuckles, this way the joint will be tight. Be careful not to saw beyond the 45° slope as the saw kerf would be visible in the final joint.

13 Use a coping saw to remove the bulk of the waste – in the same way you would do dovetails. Then, with a paring chisel, remove the waste in the area between the two 45° slopes – there is no need to make these curves a perfect fit to the corresponding knuckle as they will not be seen.

14 Remove the waste ends leaving two knuckles behind.

15 These waste/exposed ends, however, need to be shaped precisely; use an in-cannel gouge to achieve this.

16 Once the waste has been removed, test fit and adjust the joint. If all goes well, a light sanding is all that is required.

17 Once the joint is complete, a 5mm hole needs to be drilled the length of the joint. It is important that this is perfectly centred – any deviation will cause the joint to rack and ultimately break. I like to drill long holes from both ends, that way at least the exit holes are centred. In this example I used a large nail as the pin.

Fig 17 shows the final hinge – the 45° shoulders act as stops.

And that's it – if only all our own knuckle joints would last another 100-plus years.

After all the chiselling, my knuckles are just a bit sore. ■



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Ask the experts

Another selection of awkward questions for our experts to answer



ANTHONY BAILEY
Editor,
Woodworking
Crafts magazine



MARK BAKER
Group Editor,
GMC woodworking
magazines

STAR
QUESTION

PRIME CUT

I recently saw a seriously cheap set of four chisels in a certain discount supermarket – hooped beech handles and blades with German DIN marking and the words ‘chrome vanadium’. It seemed a bit dodgy to me. I’m a natural sceptic, was it a mistake not to buy them? **;**

Ben Allcroft

Anthony replies: Are you joking? This is, one might say, a famous set that comes on sale every once in a while. At £8, which I believe is, or was, the asking price, that is a howling bargain for a set of quite



A good quality European-made chisel (top) and a budget Chinese chisel (bottom)

respectable chisels. They will bear a little fettling to the blades but they should last your lifetime if looked



Note the differences in surface grinding, lack of a shock washer and a thinner ferrule on the cheaper chisel

after. Keep an eye out for their inevitable return at some point...

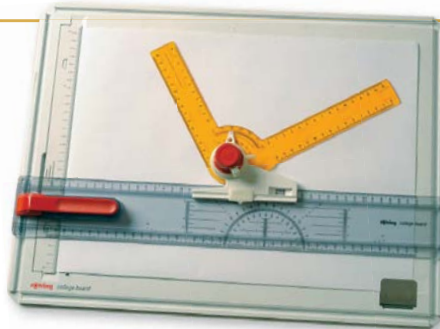
PHOTOGRAPHS BY GMC/ANTHONY BAILEY

DRAWN TO IT

I seem to remember ages ago you did an article about technical drawing. I don’t want to invest in CAD really, it doesn’t excite me. I would rather do some proper drawings but without the inky mess. What’s the best way to draw accurately without too much of a learning curve? **;**

Jade Winson

Anthony replies: A think a lot of people prefer to use ink and pencil rather than a computer programme, which is quite understandable. It is freer in a way and potentially more satisfying if you do a decent job of it. For the purpose of making a two-dimensional



A portable drawing board is the next step if you are serious about drawing by hand

drawing with scale and sizes, drawn on should suffice. You can buy a set of hard fibre-tipped pens from any big stationer’s. These come in specific tip sizes and are a good substitute for the high-maintenance ink technical pens I think you are referring to. You need a scale ruler and a special T-square that presses against the side of a pad of paper and the paper, of course. Draw in pencil first. Over-draw with the pens and erase extraneous pencil marks. That is about it. You can get a proper portable drawing board, which is better, but you don’t need lots of resources.

If you need to do three-dimensional drawings or sketches, then a non-bleed marker pen pad and some coloured felt tips will do it. For guidance on perspective drawing we had a couple of books reviewed in the December issue (34) which are very helpful.



A mechanical pencil and fibre-tip drawing pens are perfectly adequate for most technical drawing work

FEELING A LITTLE FLAT

I own what I thought was quite a good quality cordless drill with Ni-Cad batteries, but the batteries have finally more or less died. I can buy a new Li-ion powered cordless at a good price with a couple of batteries, I can’t keep the old drill without spending a lot of money on new batteries. It seems ridiculous that it’s cheaper to throw the old kit away – all part of our modern throwaway culture. **;**

Rick Hayman

Anthony replies: The deal you can get on a new cordless drill kit is all about economics. The manufacturers can offer their products to dealers at a good price, which is passed on to the customer because they are manufacturing in vast quantities. Spare batteries, on the other hand, are not often needed, so for the manufacturer it is a stockholding exercise instead.



IT'S IN THE TREES

☞ I have been asked to make some goodies for people to work on at a charity craft fair using rustic wood. I have some freshly cut down logs and I was thinking of getting them sliced on the bandsaw by a friend but they have said the wood is very wet and can't be used if the fair is only about six weeks away. The wood does feel wet and we need to be able paint it or do some simple pyrography on the cut wood. Help! ☹

Patty Merryll

Anthony replies: Your friend is right – very wet wood isn't suitable, it needs time to dry out as it is full of sap and you can feel just how full of fluid it really is. The good news is that if you can get it sliced quickly enough and thinly enough and leave the slices on cardboard or newspaper to dry in a



Thin slices of wet, sap-laden wood drying in a centrally heated room. Some may split though

warm indoor setting then I reckon it should be good enough to go by the time you need it. If it is left any thicker that might not be the case, so do keep it thin to speed drying.



Dry branch material not only burns well but could have craft uses too

SHEDDING IDEAS

☞ I need a shed-come-workshop for my back garden and I've been trying to decide if it's better to make a shed that is designed the way I want it or buy a ready-made one. I'd like to get this sorted in time for the better weather so it can get some proper use. ☹

Gerry Norman

Anthony replies: The answer to this one can only be decided by you, I'm afraid. A ready-built shed costs money and not all are made to the best standard, so you need to be sure it is fit enough for purpose. If you design and make your own it's still going to cost money plus your time, so you may be no better off. You can, however, make it to your own specification. Maybe I've been lazy, but as a 'man of sheds' I've only built one fully spec'd one, the others are all ready made. The joy

A large garden shed dedicated to workshop activity can be surprisingly roomy



of that is the speed of assembly, no designing, no cutting, no making, all done quite quickly.

Points to note. Have a good base underneath such as slabs and bearers so you have good ventilation and no earth contact so no rot. Make the inside

your own, line with plastic sheet, then insulation board and oriented strand board (OSB) and fit robust electrics – use an electrician for this. I like a built-in bench that runs full length, but you can have a freestanding workbench if you prefer.



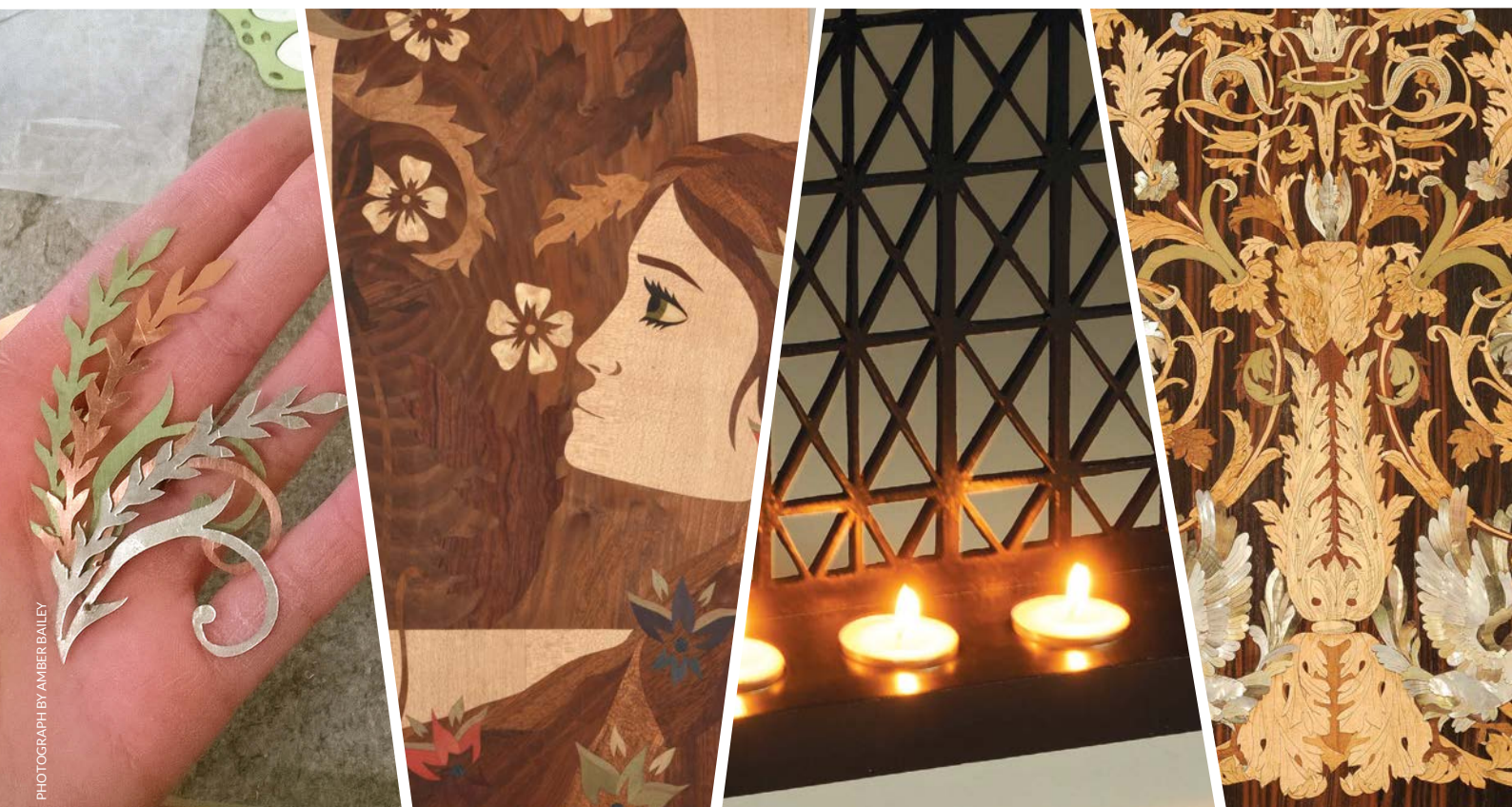
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prize-winner will receive a Narex six-piece chisel set worth £79.95 and all other published questions will receive a 20mm half-round fine cut Narex rasp worth £20.95. For more information see www.tomaco.co.uk



N.B. If you do need help or advice you can email me: anthonyb@thegmcgroup.com or visit: www.woodworkersinstitute.com where there are lots of useful articles, either way the service is free!

By submitting your questions and photos, you agree that GMC Publications may publish your Work in our magazines, websites, electronic or any other mediums known now or invented in the future. In addition GMC may sell or distribute the Work, on its own, or with other related material. This material must not have been submitted for publication elsewhere



PHOTOGRAPH BY AMBER BAILEY

PHOTOGRAPHS BY GMC/ANTHONY BAILEY UNLESS OTHERWISE STATED

DECORATING WOOD

There is an innate human urge to decorate whatever we make, but which type of decoration and why?

A recent conversation with Mark Baker, editor of both *Woodturning* and *Woodcarving* magazines, threw up the interesting question of the differences between various ways of decorating wood using wood itself. So here is a description of the types, means and methods which I hope will guide you when considering your future projects. There seems to be quite a lot of confusion on the subject, so it is broken down here into specific techniques.

All techniques benefit from an accurately laid-out design, a

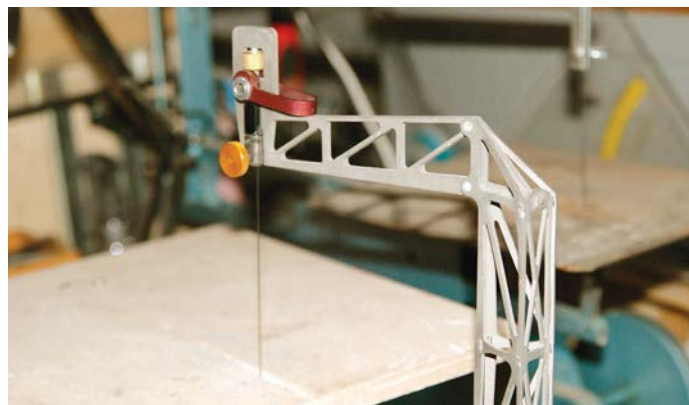
copy of which may be stuck on the workpiece or the material to be applied, for the purpose of accurate shaping. So the first step is either drawing or copying a design, for which there are plenty of suitable woodworking books with patterns.

The next step is deciding what technique is appropriate and the tools and working method needed. Some can be done with simple hand tools while others may need the use of a machine, such as a scrollsaw.



PHOTOGRAPH BY STEVE BISCO

Using tracing paper and carbon paper, a quartered design can be replicated



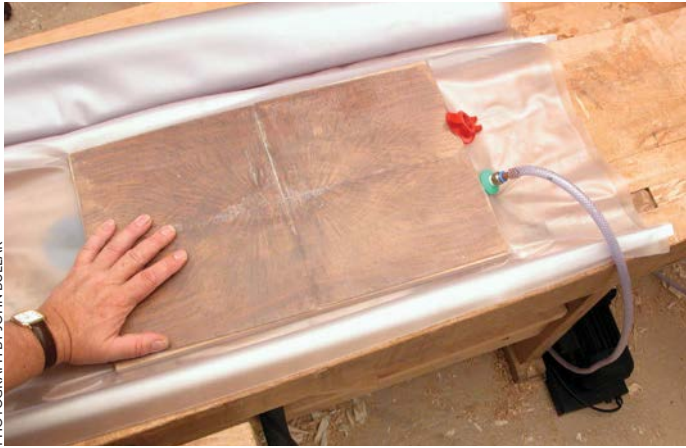
PHOTOGRAPH BY AMBER BAILEY

A precision Knew Concepts fretsaw allows very accurate cutting by hand

DECORATIVE TECHNIQUES

Veneer

Veneers can be plain or decorative when they have highly figured grain and good colour. They can be laid in different patterns, such as two-way or four-way mirror match, or in a radial or other pattern that shows them off to best effect and suits the object applied to. An often plainer balancing veneer is applied on the reverse side of the veneered board to even out the stresses that can occur by only veneering on one side, thus causing the board to bend once the glue dries.



PHOTOGRAPH BY JOHN BULLAR

A four-way veneer matched panels placed in a vacuum bag press are after glue up



Veneers can be both plain and exotic and come in a wide variety of colouring and grain figure

Marquetry

This is the use of veneer cut into smaller shaped pieces to create pictures or asymmetric shapes in wood. Modern veneer is normally knife cut from a log and less than 1mm thick. It can be produced from most timber species, some of which are highly figured and coloured and suit this decorative technique well. Artificially dyed veneer, known as harewood and usually made from sycamore, is used for marquetry to broaden the colour palette of the marquetarian. A lesser-known material is coloured and flattened straw, which can only be cut with a scalpel-type knife but has a sometimes spectacular sheen or shine not present with wood veneer.



PHOTOGRAPH BY AMBER BAILEY

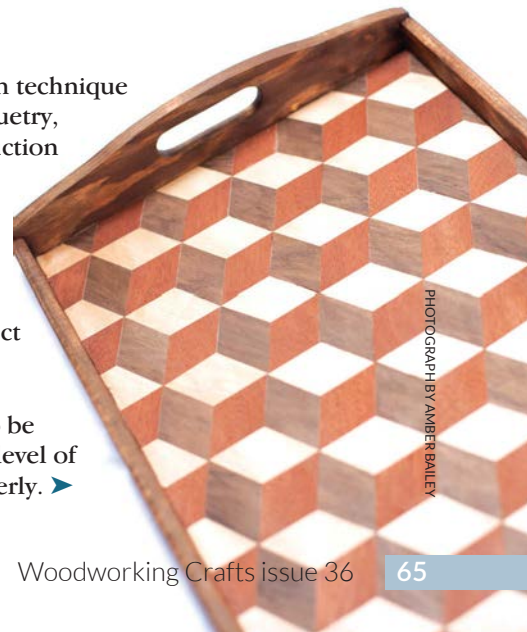


PHOTOGRAPH BY LOUISE BIGGS

A veneer knife, cutting guide and cutting mat are essential for precise marquetry work

Parquetry

Although it is similar in technique and materials to marquetry, parquetry is the production of a regular geometric pattern that can, in some cases with cube patterns, give an optical illusion of a three-dimensional effect (see photo right). Since there are many identical-size pieces to be cut, it requires a high level of accuracy to do it properly. ➤



PHOTOGRAPH BY AMBER BAILEY



PHOTOGRAPH BY LOUISE BIGGS

Precise knife-cut marquetry of a commemorative poppy design by Louise Biggs



PHOTOGRAPH BY PATRICIA SPERO

A stylised elm 'pebble' inlaid with crushed malachite and resin, by Patricia Spero

Inlay

Inlaying is exactly what it says, fitting pieces of wood or other materials such as bone, shell, brass, pewter, etc into shapes cut into the surface of solid wood. Accurate cutouts in the wood are needed for the inlay pieces to fit properly. As with all the techniques mentioned here, use of the appropriate adhesive is important.



PHOTOGRAPH BY AMBER BAILEY

An original worn piece of mother of pearl inlay replaced by a new brass escutcheon

Fretwork

This is pierced-through cutting of wood to create open patterns, such as a screen or pieces assembled together, an example being a jigsaw. Fretwork is nowadays often referred to as scrollsawing, although it can be cut with a hand fretsaw or even a bandsaw. Fretwork is often used as the basis for non-decorative or three-dimensional decorative items, not necessarily as an end in itself.



A set of fretted interlocking leaf design coasters by scrollsaw expert Roger Buse

PHOTOGRAPH BY ROGER BUSE



PHOTOGRAPH BY ROGER BUSE

A scrollsaw is the perfect way to achieve controlled fine cuts and follow awkward shapes

Intarsia

Intarsia is the shaping, contouring and use of different coloured and grained timbers to create a three-dimensional piece of work. To create a wider colour palette dyed, stained or painted woods are sometimes used. Higher and lower areas emphasise the 3D effect. Some careful planning is needed to achieve a convincing result. Fortunately there are books of intarsia patterns available which enable the reader to create impressive results.



PHOTOGRAPH BY FRED & JULIE BYRNE

An exquisite and fun porthole intarsia project by Fred and Julie Byrne begins to take shape

The final result looks incredibly different to the raw components and very effective



PHOTOGRAPH BY FRED & JULIE BYRNE

METHODS

There are invariably different ways and means of doing the same job but some are proven to be better or easier than others, depending on whether you are a raw beginner, an intermediate learner or closer to expert status.

Veneering, marquetry and parquetry can be cut out with a scalpel and safety rule but marquetry in particular – because of its often complex design and small-sized pieces – can often be better done with an electric scrollsaw or a hand fretsaw. Professionally it will be done with a laser, industrial scrollsaw or even a traditional marquetry donkey. Metal inlay requires the use of piercing saw blades which fit either in a hand piercing saw or a scrollsaw.



Yannick Chestang, Boulle marquetry restoration expert, demonstrating use of the 'donkey' or 'chevalet'



A massively complex copy of a 19th century original by Amber Bailey, substituting a resin compound for banned ivory



PHOTOGRAPH BY AMBER BAILEY

A small butterfly marquetry design being cut using the 'window' method, cutting through the background openings

Inlay requires cutting into the wood surface, so options such as a router with a small diameter straight cutter plus carving gouges to clean up the edges or gouge work alone if it is carefully cut to depth, will prepare the surface for the inlay. There are small desktop CNC router units which will follow a design and create precise inlay recesses. ➤



A router and small straight cutter creating a recess for a contrasting wood inlay

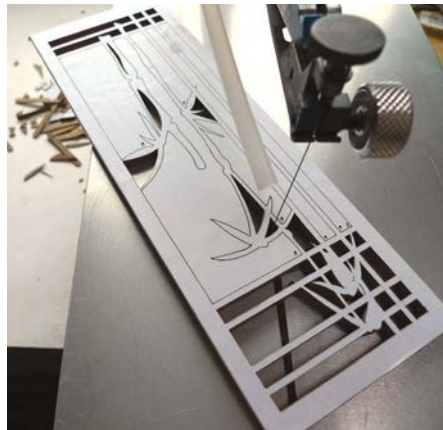
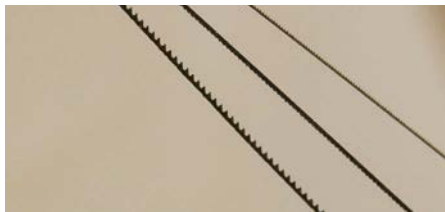


A piercing saw and very fine-tooth metal cutting blade shaping a piece of brass inlay



One of many desktop CNC machines which can be programmed to shape, carve or create spaces for inlay

Fretwork and intarsia are usually cut on a scrollsaw. You can use a hand fretsaw but it is hard work and difficult keeping to the drawn design lines. Another option that is more practical is using a bandsaw with a narrow fine-tooth blade. It will work well but interior cuts are not possible unless you can build 'escape cuts' into the design.



PHOTOGRAPH BY FRED & JULIE BYRNE

A well set up scrollsaw can easily follow intricate designs under the control of the operator



A bandsaw and narrow blade can manage some quite tight curves but the blade needs to 'escape' easily

Additional requirements

You will need other tools, of course, but those are principle requirements. Inlay, fretwork and intarsia in particular benefit from the additional use of some carving gouges, electric shapers and sanders, such as the ubiquitous Dremel-type which also allows you to drill blade access holes for interior cuts. For inlaying, a small router is sufficient along with several small-size straight cutters and held carefully either side of the base to control its movement.



A mains powered Dremel complete with a flexible drive shaft and an accessory kit



PHOTOGRAPH BY JOHN LORIMER

Pyrography is a wonderful way to turn plain wood into a picture or story in its own right

Adhesives

Unlike some forms of woodwork where joints are a major structural feature and may require little or no adhesive to lock components together, all the techniques described here rely on adhesives. All of them can use PVA or aliphatic resin glues, but traditional veneering uses hot, runny animal hide glue and a veneer hammer to rub the veneer down, whereas modern adhesives need to be used in conjunction with a veneer press. Metal inlay is harder to bond in place. Specialist epoxy resins such as West System's work, but traditionally a natural glue derived from the sturgeon fish is considered to give a very powerful metal-to-wood bond.



PHOTOGRAPH BY AMBER BAILEY

A veneer hammer being used to press down veneer using rather unconventional thixotropic adhesive



PHOTOGRAPH BY AMBER BAILEY

Standard fish glue (colle de poisson) is a powerful adhesive, sturgeon fish glue is even stronger



PHOTOGRAPH BY MARC FISH

An alternative to fix metal inlay or add crushed mineral inlay is to use a West System epoxy resin

Getting started

Hopefully you can see from everything said here that you can begin with as little as a scalpel knife. You can do many different things with a scrollsaw and if you happen to already own a bandsaw just changing to narrow scroll-width blades will allow you to broaden your horizons and try new project ideas. The world is literally your oyster – you can actually shape one out of wood. ■

Coming next month in
Woodworking
 CRAFTSO

ISSUE 37
ON SALE
15 FEB

Build a simple five-board bench

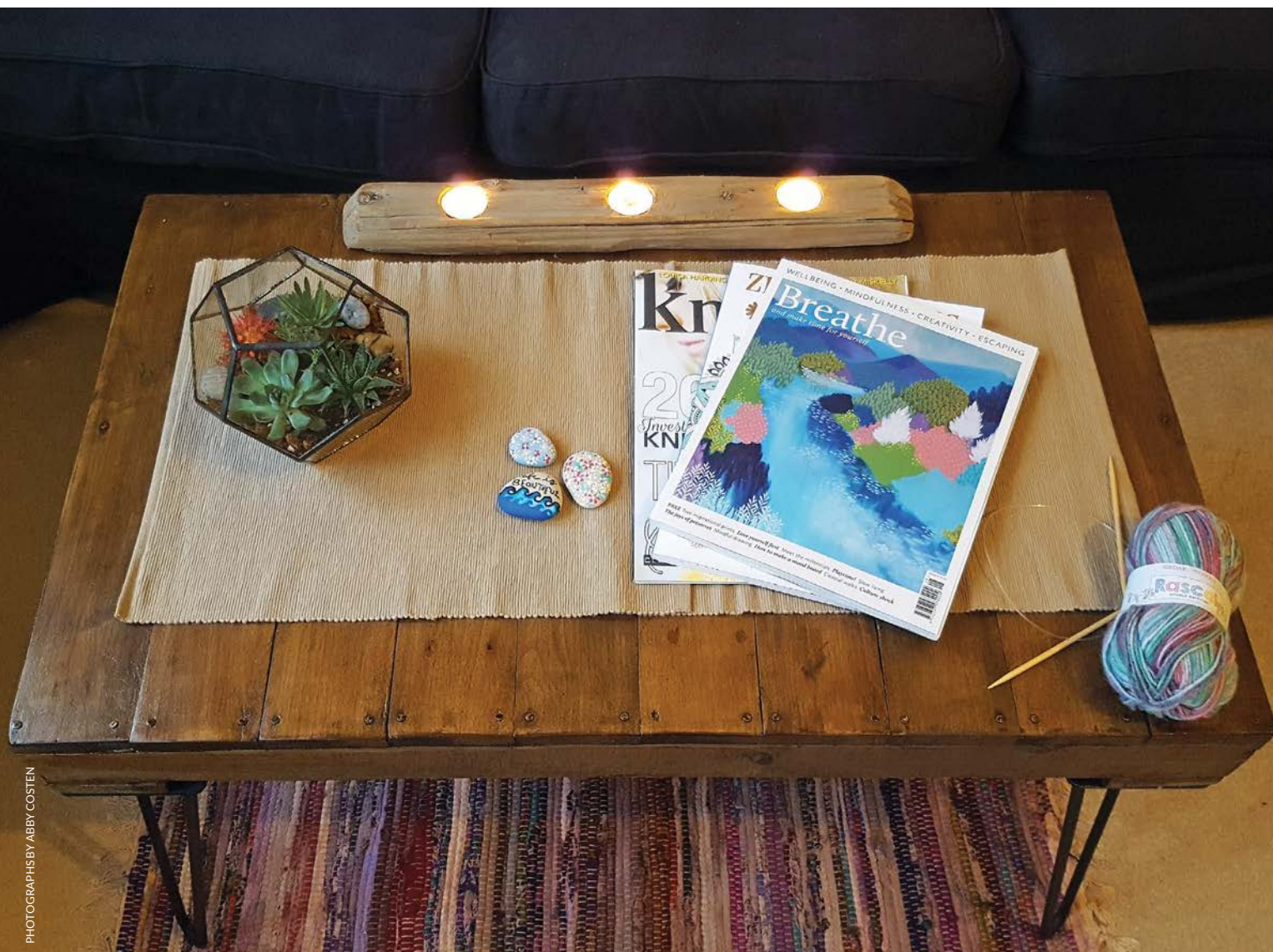
- Upcycled sunburst mirror
- French style bread board
- Parquetry veneer tray
- Make a workshop machine base
- Meet Gareth Irwin
– Welsh stick chair maker



PLUS: • Simple knife making • Tip-over machine table
 Easy build shed project • Trees for Life – Hornbeam

Easy upcycled pallet table

Abby Costen and Chris Holmes make something for the weekend



PHOTOGRAPH BY ABBY COSTEN

Looking to achieve a cool, vintage-style look for your home but fed up with the high-priced high street furniture price tags and think you can do an equally respectable job yourself? Eager to get into upcycling but don't know what you'll be facing? Abby Costen & Chris Holmes show us how to transform two old wooden pallets into a chic coffee table.

Equipment

- Dustmask
- Two wooden pallets of choice
- Hairpin legs
- Crowbar
- Hammer
- Orbital sander
- 120 grit abrasive paper discs
- Measuring tape
- Ruler
- Wood pencil
- Circular saw
- Pins
- Router
- Wood varnish
- Screws
- Screwdriver

Find your pallets

1 Acquire two wooden pallets. You can often see them around at industrial estates or businesses. Ask nicely for a couple – sometimes companies can be glad to get rid of them.

Disassembly

2 Break apart the pallets with a crowbar. It gives plenty of leverage to force the components apart.

3 This step can be made easier by using a nail punch and hammer to push the nails deeper into the wood beforehand.

4 Remove nails with a claw hammer. Make sure you have plenty of good wood in the right lengths for making the table and discard any broken planks.

Creating the table top

5 Use a tape measure to determine your desired coffee table size. Outline this size with the three best planks from your pallets, cut to length if necessary. Then figure out how many planks you need to achieve this size. Sand the planks to remove any dirt marks. Build your frame using nails to fix the planks to together and cut and fit a sheet of 9mm ply underneath. This becomes the underneath shelf.

6 Rout the edges of the table so the plank edges become flush with the sides.

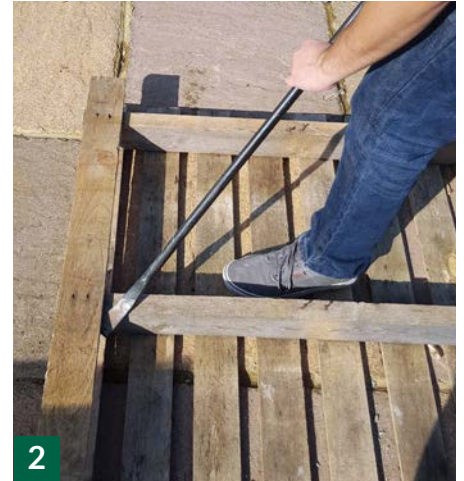
7 Sand the table top and wipe it down with a damp cloth. Apply wood varnish, following the instructions on the tin.

Attaching the legs

8 Drill holes in all four corners and screw on the hairpin legs. For this project we bought ours from The Hairpin Leg Co. (www.thehairpinlegcompany.co.uk). ■



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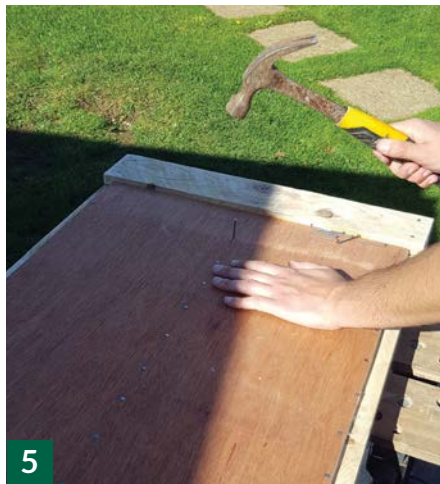
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EDINBURGH TOOL LIBRARY



A library without books? Surely that's a 'tool' story...

A place where you can borrow tools, a place for support and help, a place to help cement a community spirit, a place to make friends – such a simple idea, but it's taken a lot of hard work and dedication by founder Chris Hellowell to put this innovative idea into practice.

In his own words: “The story of the Edinburgh Tool Library began in the summer of 2013, when I was visited by a friend from Toronto. While chatting about social enterprise, she told me about her home town's new tool library, which lent out equipment to its members. I thought this was a great idea and made so much sense, so I started looking into it. Emails were exchanged with the Toronto Tool Library and arrangements were made for my return visit to Toronto the following October. After a few days' catching up with friends, sports and hostels I hadn't seen in a long time, I popped into the Toronto Tool Library to meet Ryan Dymont, who was running the show that day, and one of the driving forces behind the project. I had a great afternoon, learning about how everything worked, the challenges I could expect, and picking up all sorts of advice. Ryan was a goldmine of info, but what I was really struck by on my visit was an encounter with another visitor.

A helping hand

“While I was at TTL, a young man, let's call him Phillippe (Phillippe Albert is my all-time favourite footballer). Phillippe was having a tough time

of it. He was homeless, living on friends' sofas, and skint. He was probably around the same age as me (30s... ahem!) and I guess I could see something of myself in him. Maybe if I 'zigged instead of zagging' at some point, I could be in a similar position as him. To his credit, Phil (we are getting to know him by now) had got himself a job as a roofer, and was starting the following Monday. What he didn't have was tools or money, meaning he needed to get his hands on a hammer, Stanley knife, and tool belt if he was going to be able to do the job. Ryan ran through the set-up at TTL with Phil and let him borrow what he needed, setting him up as a temporary

“The average power drill is used a total of 13 minutes in its lifetime. Do you want the drill you bought to put up a shelf, to end up on that shelf?”

member. Once Phil had earned a wage packet he could join as a member. The difference this made to him was huge, and he wasn't far from tears. What it showed me was how something as simple as a tool library can make a difference to one individual. Giving people access to equipment means handing them the potential to better their environment and potentially their lives. Whether that be clearing up your garden, putting up a few pictures, or giving you a chance of holding down a job, they are all of benefit. Before I visited Toronto, I understood the environmental argument for sharing resources. On leaving, I understood the human argument as well.



Founder Chris Hellowell outside the police box

Battling for success

“My trip to the land of pucks (ice hockey), poutine (a Québécois culinary creation) and politeness, had left me convinced that a tool library could work in the UK, so I set out establishing a board of trustees and applying for charitable status with the Office of the Scottish Charity Regulator (OSCR). This took longer than I had hoped but, after a long, drawn-out battle, we managed to argue our case successfully, and on 14 October 2014 we were given charitable status. We built up our tool inventory through donations from individuals, organisations and charities and ramped up public interest in the idea. ►



Giving advice to a library member



Using a portable saw from the library

We did lots of media engagement, appearing on BBC *Reporting Scotland*, STV Edinburgh, BBC Radio Scotland, in *The Herald*, *The Scotsman*, and the Edinburgh Evening News, as well as on a variety of blogs and online articles. On 7 March, 2015, the UK's first tool library opened in an old police box on Leith Walk."

Community benefits

Three months after opening, ETL had about a dozen volunteers, more than 500 tools, 80 members, and has lent out over 150 tools, but it isn't done yet. The tool lending side of the project is established and blossoming, but it wants to move to phase two of the project.



A library volunteer using a tablesaw

Says Chris "Today, we have almost 1,200 members, 6,000 tools and are expanding our activities to include an employment programme."

So the next step is to help people such as Phillippe back in Toronto. It wants to provide opportunities for young unemployed people who are interested in working in the trades industry. It hopes to do this by providing support and mentorship in a workshop environment. The young trainees will learn about tools, maintenance, cataloguing, customer service and demonstrate tools to members, under the supervision of retired trades people, or mentors. It is working with the Generations Working Together charity to develop this side of the project, and is looking to secure funding to develop the idea further, giving members space to learn, collaborate and utilise, helping trainees discover and develop skills, before moving on to employment, and using the skills of the mentors, showing them that the community values their knowledge and experience.

Chris says: "It's been an adventure so far, but there are more people who can benefit, and an even bigger change we can make to the communities we live in. If you feel you want to be part of this, or want to help us achieve our goals, please get in touch."

The future

In such a short feature we can't express just how expansive this project is becoming. Under the leadership of Chris Hellawell, it now has a Tool



Showing off for the press

Depot as well as the police box. It has an army of volunteers who meet quarterly to participate in deciding where their efforts should be directed, working together as a 'sociocracy'. It supports other charities and groups in need of help and is helping to assist in the creation of tool libraries elsewhere in Scotland which can benefit from ETL's own experiences setting up this enterprise.

It seems like such a brilliant idea that it can and should take off elsewhere in the UK supporting communities and individuals – we wish Chris and the team the very best of luck for the future. ■



Chris Hellawell with Jen Schachter who was visiting from Baltimore Tool Library

Contact details

The Edinburgh Tool Library, 9 Spey Street Lane, Edinburgh EH7 4QB

If you are interested in setting up a tool library why not contact Chris for a chat?

Visit:

www.edinburghtoollibrary.org.uk



Trainees working under supervision

Replacing a Bathroom sink unit

The **Editor** finds out for himself that some DIY jobs just make your heart sink and this was one of those...

PHOTOGRAPH BY GMC/ANTHONY BAILEY

Safety note

You should not attempt plumbing or electrics unless you are confident that you understand what you are doing. There are specific regulations for bathroom electrical installations and the scope of electrical work that can be carried out by unqualified persons. It is much safer to have such works done by professionals. ➤

After much discussion with my wife over an extended period of time, it was her suggestion that the old vanity unit and sink that had that damp musty smell should be replaced and the new one repositioned along the wall next to the bath. That meant plumbing and electrics would change in the process as well. The sink was a quite impressive long but narrow piece of white porcelain with a projecting bowl at the front. It came from our local recycling centre for £10 (from memory) and had been waiting for a chance to be put back into use. A complicating factor was that it was designed to fit over a vanity unit, but we wanted it fitted in between bath and storage. Another complication was to try to rid the room of dampness and mould, permanently if possible.

Deconstruction

1 The source of the damp musty smell was already known – the chipboard core under the worktop was constantly wet and swelling up. Most of the tiles came away easily but a few required goggles and a claw hammer to persuade them off.

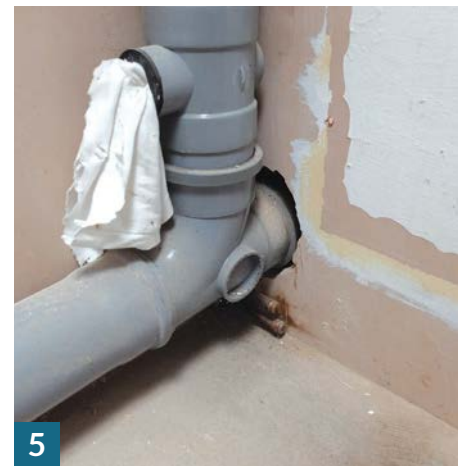
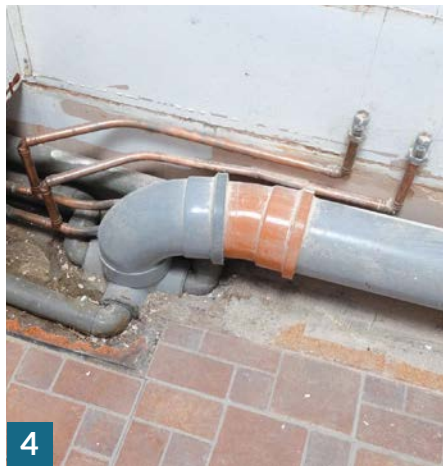
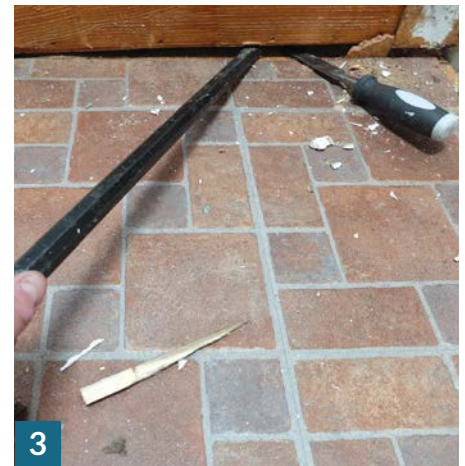
2 The left-hand section was still in place after cutting away most of the vanity unit. Care in removal would be needed as there was a 'viffer' – an air-admittance valve – standing behind it. The sink plumbing had already been turned off at the isolating valves below, making it easy to disconnect the copper pipework.

3 This was a ground-floor bathroom with a solid screeded floor and boxing covering a large soil pipe which had connections to the bath, the existing vanity unit and a kitchen sink the other side of the bathroom wall. It required a combination of a large wrecking bar and a site chisel to force the boxing off its fixings.

Plumbing & electrics

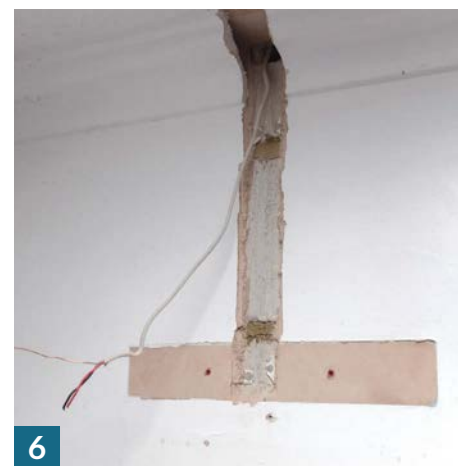
4 I had marked the new vanity unit position on the wall adjacent to the existing one and, having previously shut off the incoming water supply, soldered new 'tails' with isolating valves in position. The supply could then be safely turned on again, meaning the bath could still be used.

5 The existing higher soil pipe branch was a push fit with a rubber seal, so I simply had to loosen it, turn it



through 90° and plug the hole with rag to avoid the smell. The tap supply pipes to the old vanity unit were capped off before the new ones were added on the adjoining wall side.

6 Next came the electrics, which would also move along the other wall. The bathroom had its own fused supply so it was shut off independently and a cold chisel and club hammer used to chop back the plaster and reveal the plastic protective cover and lighting supply underneath. An ordinary chisel soon cut around the



galvanised nails, allowing the plastic cover to drop away.

7 The cornice, which I had fitted when the bathroom was new, was hollow behind. I reasoned that I should be able to extend the existing cable and fish it through the gap to the new location. It wasn't keen to do this so it made sense to remove a section from the room corner to the new position. My favourite tool, the Japanese pullsaw, came into its own as usual.

8 I had already made the cutout in the plaster and cornice for the new position but, as described in step 7, the cable resolutely refused to come around the internal cornice corner. I repeated the pull cut along the ceiling so this short section of cornice would then come free.

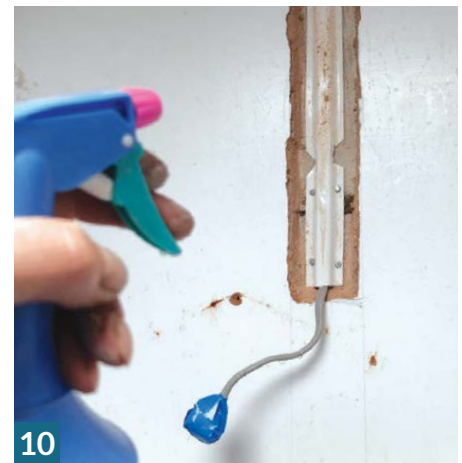
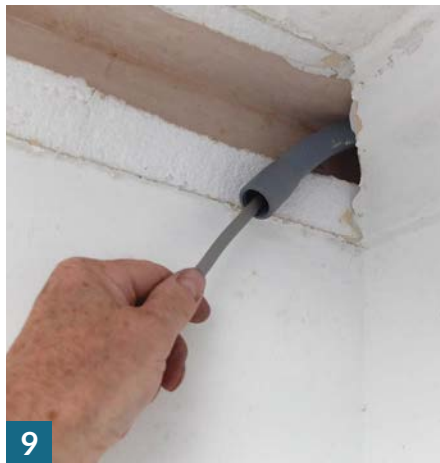
9 The cable still didn't want to slide along when it was pulled with a cord tied to it. Using yet more cunning, I found a spare section of dishwasher hose, fed the cable through that then pushed the hose along behind the cornice and the trick worked perfectly. The hose was then withdrawn, leaving the cable hanging out.

10 The old plastic cable cover was reused, fixing it through uncut areas using galvanised nails into the blockwork behind. Then it was sprayed with water to wash away building dust and keep the porous surface damp while the plaster was applied, as plaster and cement are both very hygroscopic, sucking away moisture, which can cause lack of adhesion and cracking. Needless to say, the electricity supply remained shut off.

New build

11 I used the position of the end panel on the left-hand side as the end datum point. Spacers were used to keep it vertical when pressed against the moulded bath edge at the top. Cutouts allowed it to sit over the pipework. Before it was fitted, the first section of pipewrap was placed around the cold supply as I had noticed it had a lot of condensation on it causing surface corrosion.

12 At the other end I had to determine from the recesses in the underside of the sink unit where the right-hand end panel should be. Then I could fix a batten to the wall ➤



so the panel could then be screwed to it. These two end panels would then determine everything else that followed and would be the surfaces which shelf support fixings, so they had to be vertical and the correct depth and distance apart.

Fitting task

13 The bathroom is small, although there are two separate W.C.s elsewhere in the property. It is currently used by four people, who all have a variety of items to be stored in the new slimline vanity unit. No space could be wasted, yet there was pipework to be boxed in. I needed to make the shelf over the pipes as low down as possible and ensure the supply pipe isolation valves were sufficiently above the shelf. Below it, rather than wasting the narrow space, the soil pipe would have a vertical cover which followed the shape of the pipe and sat over the front branch.

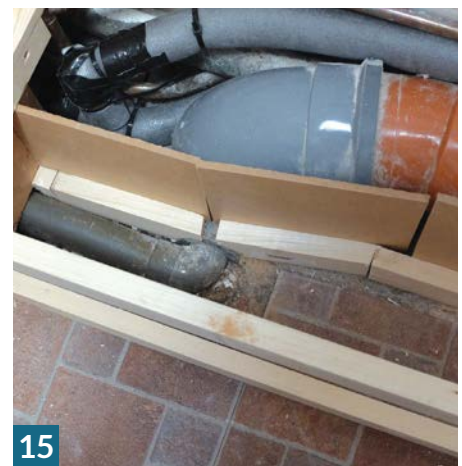
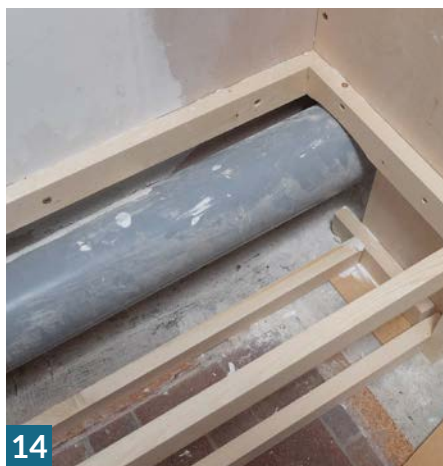
14 At the right-hand side this boxing exercise was easier and looks almost wasteful around the soil pipe, but this mini shelf would be a compromise fit. Standard 50 x 25mm PAR softwood worked perfectly, with self-drilling screws to fit it all in place and wall plugs, screws and builder's mastic for security when fixing to the blockwork wall behind.

15 The lower shelf framing was done and 6mm hardboard fixed to it. Being thin, the hardboard wouldn't eat into the shelf storage depth. The cold-feed pipe was lagged with more pipewrap to prevent condensing caused by very cold infeed water in a warm, humid environment. Any minor gaps could be filled with builder's mastic or decorator's caulking using a mastic gun.

16 Inevitably, the top edges of the boxing weren't all sitting level so they were shot with a late Victorian Stanley no.3 smoothing plane, often the one I use for DIY trimming tasks.

17 Both shelves now screwed in place, the screw holes would not be filled, just painted over so they would be easier to locate if there was a plumbing issue, but hopefully not, of course.

18 The tops of the end panels were undercoated and left to dry



before mounting the sink on them. It meant they were waterproofed and had a basic white coat beforehand. The interior and certain key exterior parts would end up painted with gloss white but with plastic board used externally for larger or more vulnerable areas.

19 There were some tense moments lifting the sink top on, trying to avoid smashing it. However, the front top edges of the carcass ends needed slight cutting back for clearance and the porcelain meeting surfaces were slightly twisted in relation to each other, so a bit of packing at one end was needed. The sink was sitting on a bed of silicone mastic, which, once set, would keep it firmly glued in place.

20 The ply shelves were fitted in place, supported on 50 x 25mm framing, and diagonal pieces fixed under the china where a shaped front waterproof plastic panel would go. At the left-hand side next to the bath and shower a section of plastic panel was bonded in place.

21 Under the sink, a shaped piece of ply was screwed to the



19

framework and a section of cellular plastic carefully shaped to match the curve of the bowl and bonded in place with silicone mastic.

22 Using a non-stick mastic spreader, I used Everbuild Forever White silicone mastic to create a neat seal between the sink bowl and

the plastic panel so water cannot get inside the vanity unit.

23 Originally the right-hand section was going to be set back slightly just as open shelves, however the client – my wife – wanted a door, so I duly added facing pieces to bring it level with the main carcass. ➤



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24 The unit was already full of bathtime necessities so the right-hand section would need an additional shelf while I was already altering the design.

25 The extra shelf was bevelled at the end to allow it to drop into place, but it would be covered by the new wall stile. Years of working single-handedly underneath an old Land Rover with transmission oil dripping on me have prepared me perfectly for fixing a very low shelf, with my head resting on the floor...

Fantastic plastic

26 An early decision had been to use the same 10mm-thick plastic cellular board for the doors – easy to keep clean and stay bright white. It cut cleanly on the tablesaw. At the hinge side I kept the cut close to a cell wall to making fixing easier.

27 Crosscutting worked equally well on the compound mitre saw. The edges would all have a uPVC capping so the panel sizes would be smaller by that amount.

28 I was aware that uPVC doesn't bond using pipe solvent cement so I managed to source Stelmax, which is the adhesive used by double-glazing installers. A test using offcuts proved it worked.

29 On the hinge side I sawed some slim softwood strips that would go right through the outer two cells so the hinges could be screwed securely to the panel edges.

30 At the other side at the top where the knob would be fixed, three short strips were bonded in place so they wouldn't slide down and then trimmed off flush. The rectangle of tape shows where the knob will go and therefore the other edge would take the hinges, thus avoiding the mistake of screwing into empty cells.

31 I tried cutting the door edge mouldings with a Japanese mitre saw and found it worked quite well.

There are various types, finishes and colours for plastic wall panels which can be bought online. The gloss white cellular plastic used for this project cost £88 for a 2440 x 1220mm size sheet.



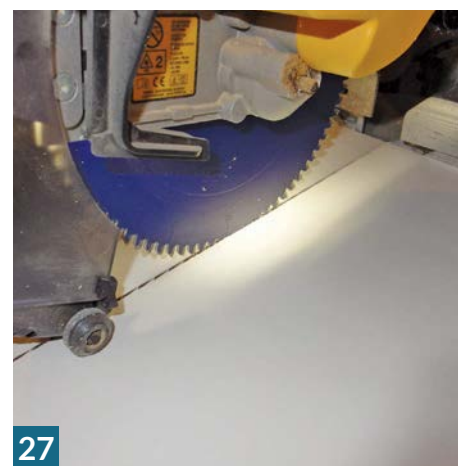
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32 It was quicker and easier on the compound mitre saw using a plastic panel offcut to support the U-shaped edge moulding.

Door solutions

33 It wasn't possible to let hinges into the plastic panel edges so I opted for the simpler solution of using surface-mount flush hinges. I chose screws with small heads so they wouldn't project and stop the hinges from closing.

34 Screwing into the edge of the door panel proved tricky with my hand in the cupboard. I then managed to work out where the hinges needed to be and instead fixed them to the panel first and then into the stile afterwards – not as shown here.

35 Door closure would be a challenge as fixing into or on plastic with conventional catches was out of the question. I bought some rare earth door magnets and washers from First4Magnets.com and industrial grade superglue with activator to help the bonding process.

36 Each of the three magnets was screwed into the carcass at the top of the door with a washer, as packing behind and close to where the door knob position would be for a positive pull. A hand screwdriver was used, not a cordless drill, as it is easy to smash these magnets.

37 At last, after a series of quite 'interesting' challenges, the vanity unit is all finished bar some final tweaks. A bright-white, wipe-clean, mould-free solution. In fact, since the ceiling has also been covered in hygienic white plastic, there has been no return to the previous state of condensation and mould. ■



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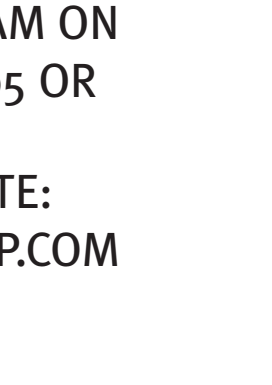
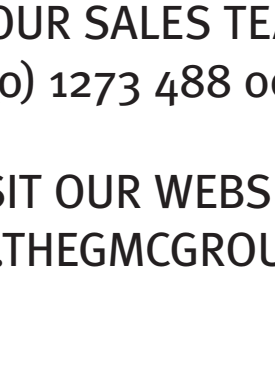
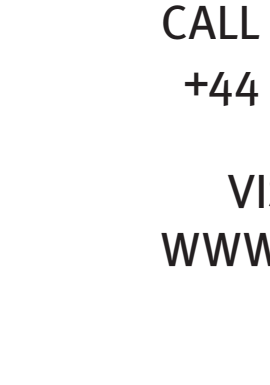
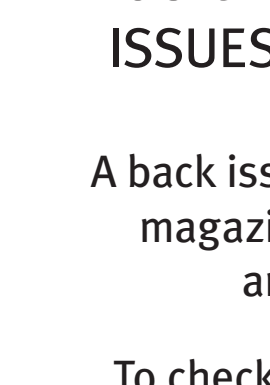
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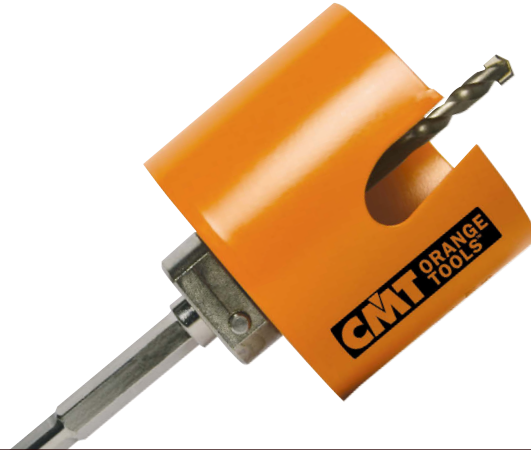
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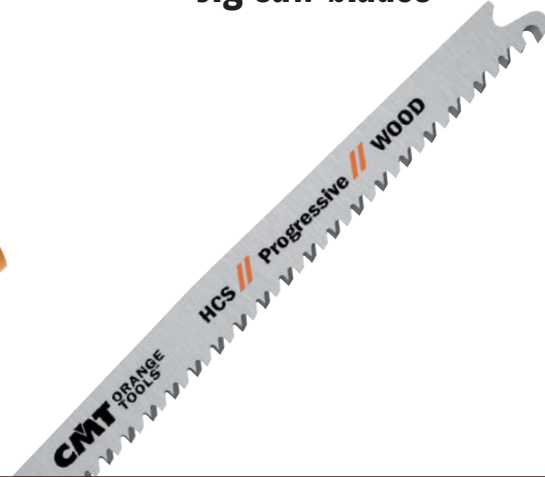
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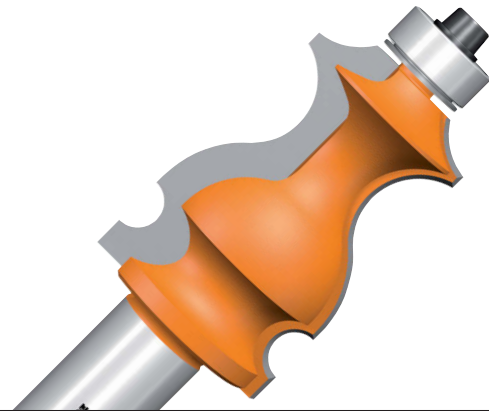
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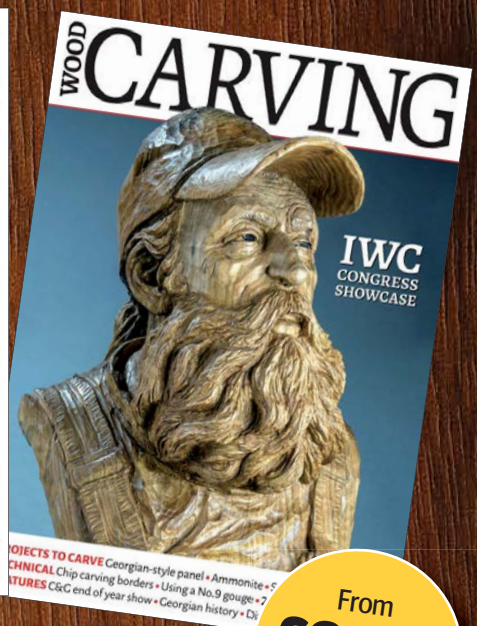
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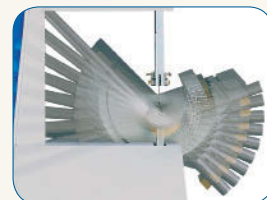
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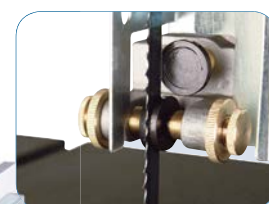
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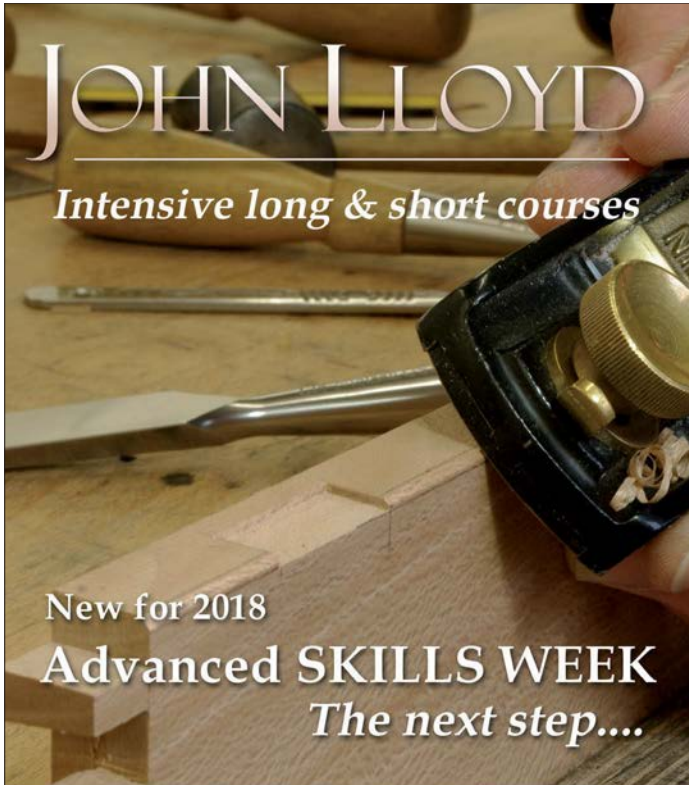
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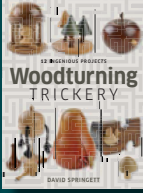
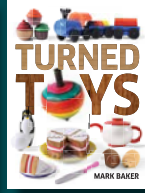
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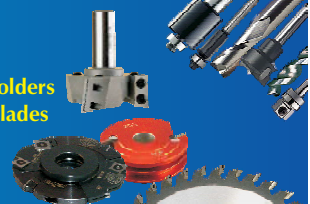





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Alvar Aalto

A seminal figure in 20th-century design

Hugo Alvar Henrik Aalto 1898-1976, was a Finnish architect and designer who is recognised as one of the great influences of modern architecture and design. His work includes designing 500 buildings, of which 300 were actually built, as well as sculptures, textiles, paintings and glassware. However, like many modern architects, he is also known for his furniture designs. He never regarded himself as an artist, seeing painting and sculpture as 'branches of the tree whose trunk is architecture'.

His design styles changed over the span of his career – Nordic Classicism, then International Style Modernism in the 1930s moving to a more organic modernist style from the 1940s onwards. His design for a building was a total work of art, encompassing special treatments for internal surfaces, furniture, lamps, furnishings and glassware.

His furniture designs are considered Scandinavian Modern in the sense of a concern for materials, especially wood, and simplification, but also technical experimentation, which led to him receiving patents for various

manufacturing processes, such as bent wood. The Alvar Aalto Museum, designed by Aalto himself, is located in his home city of Jyväskylä.

His experimentation in bent plywood chairs was significant, most notably the so-called Paimio chair, which had been designed for sitting tuberculosis patients. He became the first furniture



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Paimio chair

designer to use the cantilever principle in chair design using wood, where there is no longer the need for traditional legs for support.

His experiments led to a number of patents – he invented a new form of laminated bent plywood furniture which was patented in 1933. Aalto's furniture was exhibited in London in 1935 to great critical acclaim. To cope with the consumer demand Aalto, together with his wife Aino, Maire Gullichsen and Nils-Gustav Hahl founded the company Artek that same year.

Aalto's High Stool and Stool E60, finished in black lacquer and manufactured by Artek, are currently used in Apple stores across the world to serve as seating for customers.

If you want to learn more about this seminal figure of 20th-century art, craft and design visit the Alvar Aalto Foundation website:

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