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Making drawers, story page 24.

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Australian Wood Review

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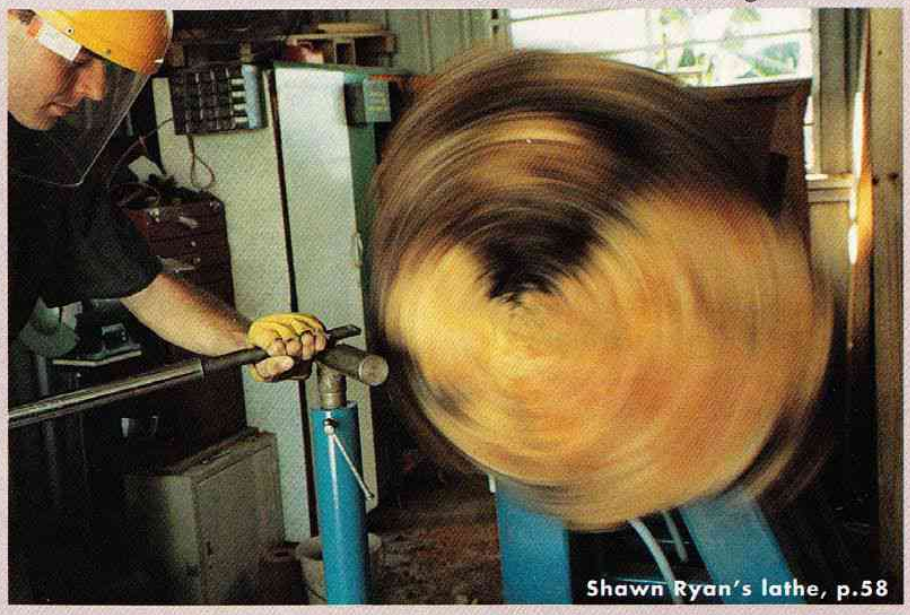
Shawn Ryan's lathe, p.58

EDITORIAL

Safety is one of those things you can never get too confident about. So it was a tempering experience for our office to receive a phone call a short time after the publication of our last issue. 'Why wasn't the chap doing the sawing wearing safety gear? How can we portray that kind of bad practice?', came the rebuke.

The point hit home fairly hard as we have previously noted the depiction of unsafe machining practices in other publications over the years. Not only that, but we were in the throes of preparing the major story on safety in the workshop which appears in this issue. The photo was staged, but the lesson was clear.

Safety is a bit like that, I suppose—one of those areas in life where retrospective wisdom flows in torrents. The story is a 'must-read' for everyone associated with the industry, because with the record for injury which woodworking machinery and/or power tools have, there is a real possibility that you may either suffer or witness an accident. If you know what to do you might be able to help, or even in some cases save a life or a digit. Personally I hope you will never need the information, but I also hope that if your workshop doesn't contain a comprehensive first aid kit, you'll go out and get one today.

There's an awful lot coming out of the woodwork, so to speak. Inspiration is all around—this issue contains several profiles of people and companies who are being extremely creative. If you're ever stuck for ideas you might take a leaf off their tree.

Practical woodworking information also abounds this issue, with stories on making drawers, making and using jigs for general woodwork, and, following on from last issue, more on the router. Anton Gerner talks about 'working smarter', being more efficient in order to facilitate workflow and increase profits.

I would like to draw your attention to an award which is being jointly sponsored by Australian Wood Review and Gunn's Veneers Pty Ltd of Tasmania. Gunn's are Australia's major producer of timber veneer. Using the latest rotary slicing technology on eucalypt regrowth they are producing top quality, good looking 'Crown Cut Veneer'. Make something fantastic from this material, take a top quality photo of it and enter our *Crown Cut Veneer Furniture Design Competition*. Finalists will be published in this magazine and the pieces will be shown at prominent trade fairs in 1997. That's excellent PR for you—and Gunn's will even supply you with a sheet of veneer to start with after you have registered your company or yourself in the competition. See page 89 for further details.

May I take this opportunity to wish you a happy and safe new year.

Linda Nathan, Editor.

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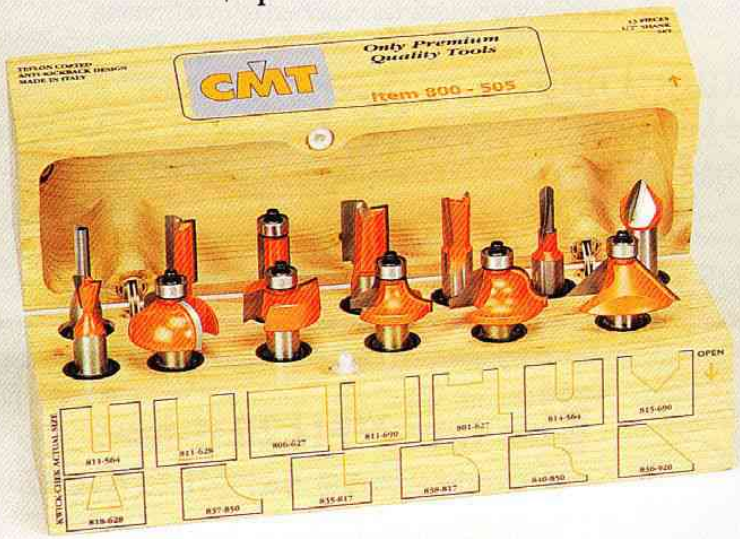

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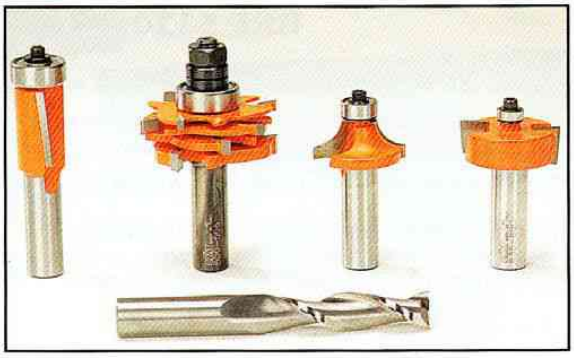

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EXHIBITIONS

NATURAL FEATURE IN FURNITURE AWARD

Melbourne Exhibition Centre, October 1996

Reviews by Linda Nathan

Photos: Peter Greenwood-Brown

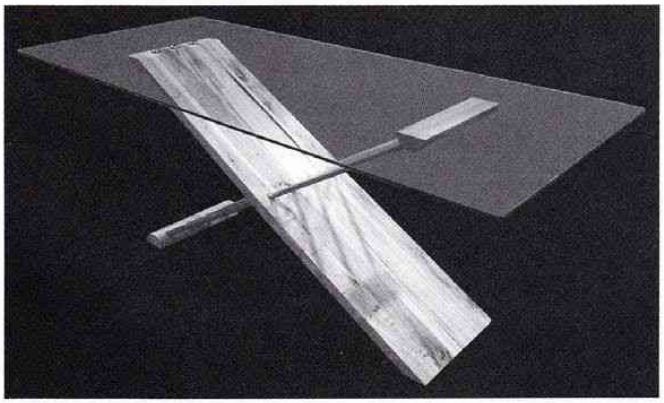
Money talks, and a $5,000 dollar prize for the winner of the Natural Feature in Furniture Award attracted a massive 43 entries at this year's Timber & Working With Wood Show in Melbourne. Victoria's Timber Promotion Council sponsor the award with the primary aim of elevating the uses and perception of timber that has formerly been relegated to structural purposes such as fence posts, framing and tomato stakes.

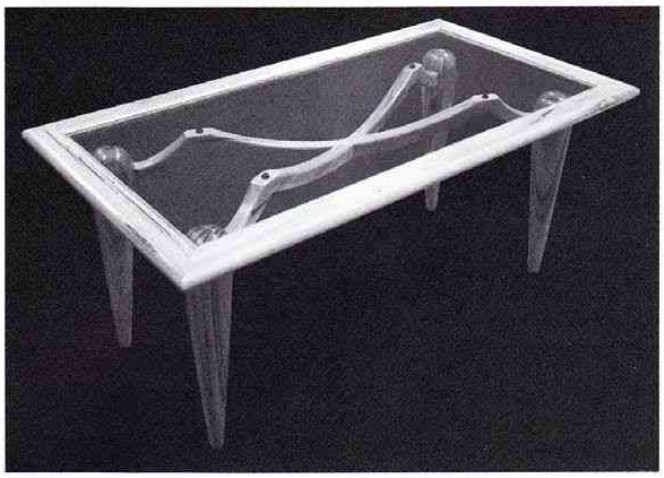
Fewer than 20% of eucalypts can produce the 'clear', feature-free boards generally used for furniture and architectural fittings. The 'defects' which have been graded out are in fact evidence of fire and insect attack—'features' which form a visible history of the tree's life.

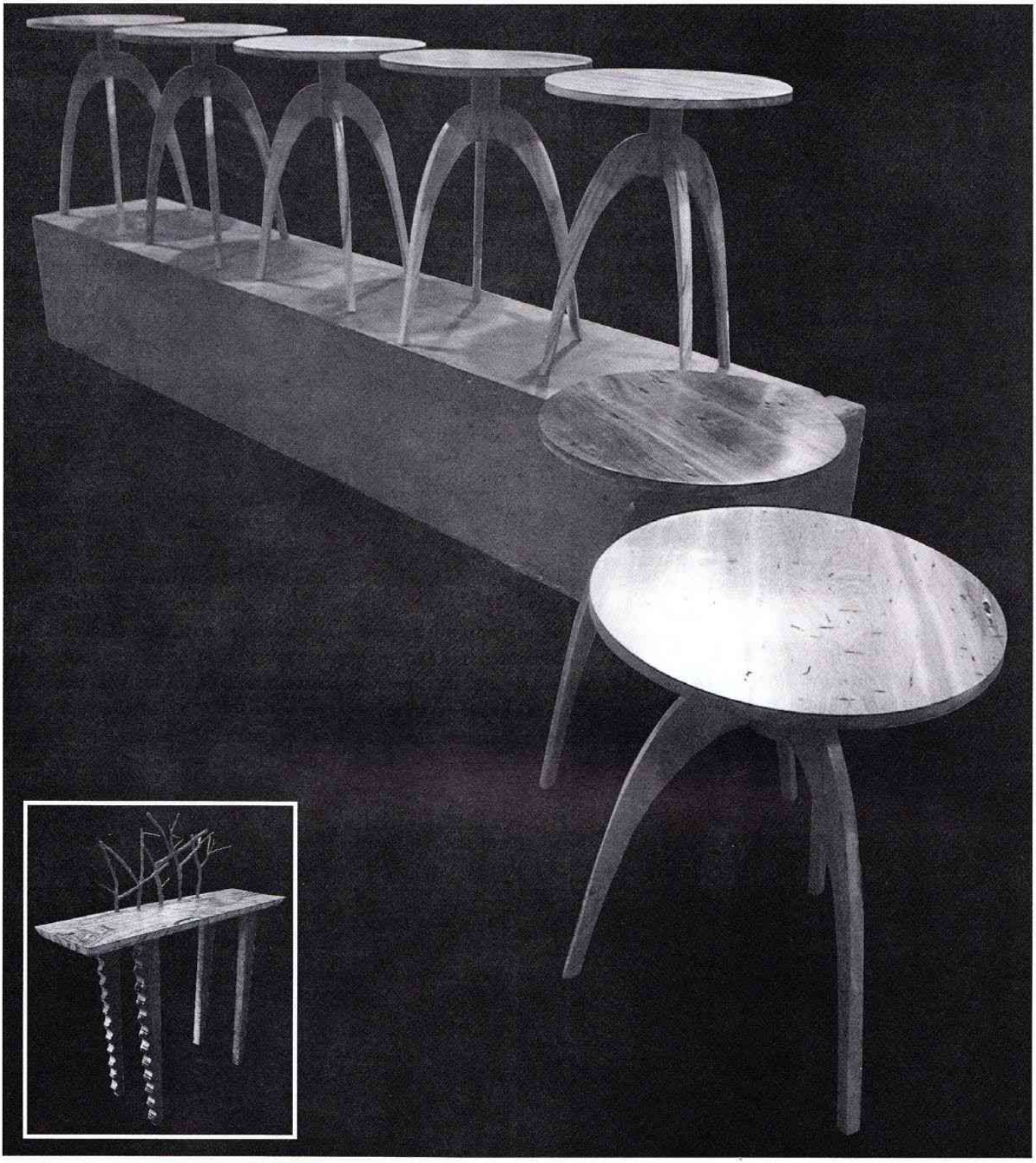
NFG timber made up into furniture was recently valued by the TPC at $10,000 per cubic metre. As a paling fence the same timber would be worth around $300-400 per cubic metre. The value-adding side is plain to the timber industry, but the angle which appeals to sawmillers, timber merchants, manufacturers and buyers alike is the ecological one where more timber is utilised from every tree and finds a higher end use on the processing scale. Market acceptance of the campaign to date is growing—NFG timber is now offering a new 'look' that is winning both domestic and export orders (see story p.16).

Unfortunately quite a few of the entries ruled themselves out of the competition before issues of design, construction and marketability even reared their querulous heads. Entries were limited to furniture items of solid timber (Australian kiln dried eucalypt hardwood) construction. There was no real problem with compliance here. When it came, however, to the stipulation to use 'timber that would not normally be considered appearance grade for furniture production' many makers couldn't control their woodlust and resorted to what were in fact highly figured timbers. Where a 'feature' occurs with great regularity the result is more correctly termed 'figure'. Possibly up to half of the entries were made from (in some cases exquisitely) figured timbers with fiddleback, ripples, ribbons, burls, birdseye and otherwise ornamental markings.

The next main sticking point was the award's criteria for commercial appeal and potential for production. As beautiful as Peter Straw and Rod Ives's (Redgum Australia) magnificent 12' x 4' table of a single piece of immaculately finished redgum was, the potential for volume was undoubtedly not there. Troy and Lindon Davey-Milne's glass topped coffee table with natural featured frame with carved base was an appealing piece of work which invited purchase, but again not mass production. An elaborate feature screen by Ken Fletcher of Downunderwood was another case in point. Made of 'road side gum tree', Ondrej Mares's whimsical 'Console on Fire' side table was a personal favourite with its ripply cut legs and red-enamelled twig ornamentation. The vision of factory apprentices scouring the nation's highways for fallen trees and twigs does not, however, exactly gell with the sight and sound of the overhead router. Despite this there were a number of pieces which did fit the brief, including the work of Comet Cabinets, Woolstore Furniture and Sunnyside Fine Furniture, and of course Wentworth Furniture whose furniture







Opposite top to bottom, tables by Post Furniture, Mette By Design, Troy & Lindon Davey Milne. Above Anton Gerner's winning tables. Inset: 'Console on Fire' by Ondrej Mares.

received special commendation.

The benefits of such a significant prizemoney purse are many; spotlighting the natural feature issue, promoting native hardwood species, leading designers to come to grips visually with timber 'features', and structurally via the construction process and, importantly, building public appreciation and demand. The downside, as far as the competition goes, was that many of the items entered were better placed in other categories of the National Woodwork Competition, which the Natural Feature Award was a subset of. A pre-selection process would have removed some of the anomalous entries.

The winner was none other than Wood Review contributor Anton Gerner who is featured on the cover of this issue. Anton's secret of success was stringent adherence to the entry criteria. The overtly production style occasional or wine tables (seven were displayed) were contemporary in feel, easy to construct and, more importantly, evinced various natural features such as kino (gum vein), water staining, pin-hole borer, natural colour variation. *The timber itself stood as the primary design feature.* Some of you may also recall that Anton was also last year's winner. Congratulations Anton!

EXHIBITIONS

See The Light

Craftspace, Centre for Contemporary Craft, Sydney.

'Olympus I'

'Through placement and the interplay of light, shade and shadow an object is born. Our senses are heightened by experiencing this interplay of light and mass', writes Tim Laurence, Co-Curator of 'See The Light' , recently held at the Centre for Contemporary Craft in October, 1996.

Light, with its power to transfigure and enliven objects, was the focus of the thirteen designer/makers who worked glass, ceramics, wood, metal, fabric and paper at the invitation of curators Lisa Pittar and Tim Laurence. Their only stipulation was the exclusive use of incandescant globes as the actual light source.

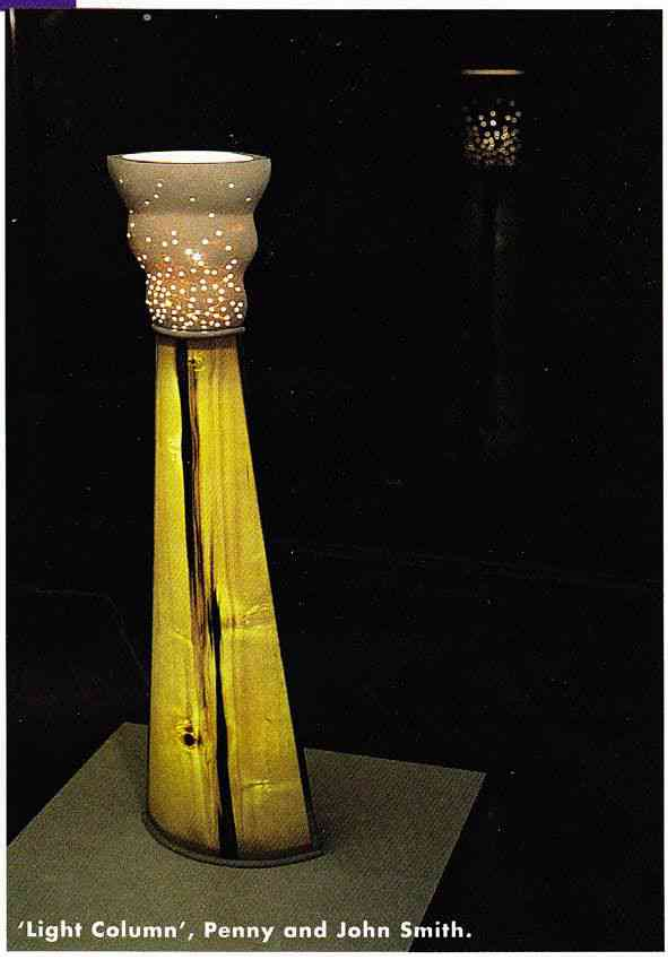
Stuart Montague's *Chesty* has the signature Montague curves and in this case 'walking feet'. This is a child's bedroom nightlight whose cartoon character feel gives the intended feeling of warmth, comfort and security. The light bulb within reflects off a yellow perspex backing plate only to emanate through a thin slice of silky oak veneer. The characteristic medullary flecks of the timber are suspended in an orange glow.

A more sophisticated statement is made by the two exhibits collaboratively made by Penny Smith and John Smith. Light glints from the perforated porcelain whilst simultaneously glowing through the translucent blackheart sassafras veneer of *Olympus 1* and *Light Column*. Both pieces are destined for production at around $700 each.

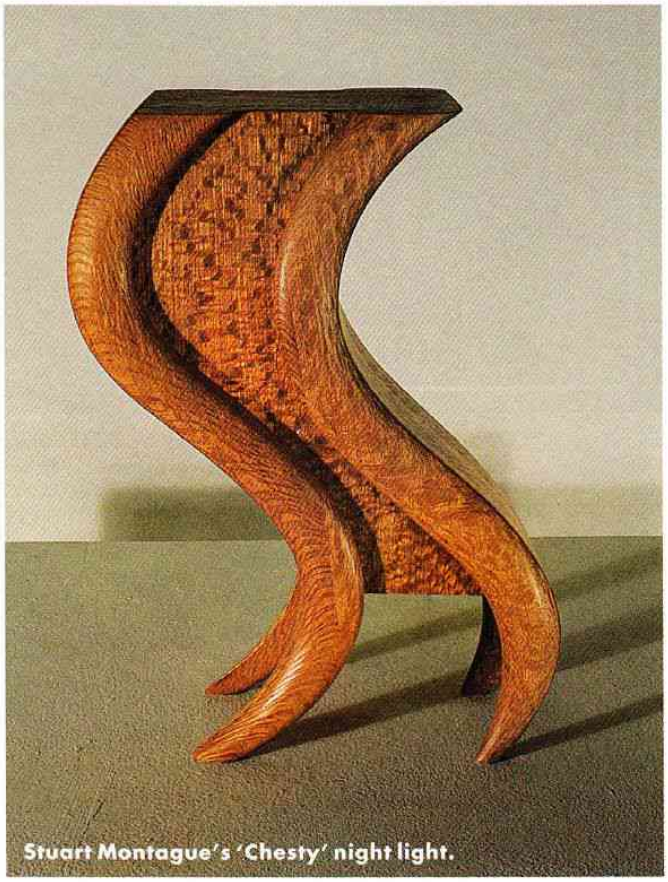
One of the most impressive and more commercial lighting statements came from Andrew Last's large *AWACS* aluminium pendant lamp. Last drew inspiration from the radar housing carried above the fuselage of AWACS surveillance aircraft. By contrast Patrick Snelling's treatments of metallic and natural fabric made more intimate, 'gauzy' statements. *Giddy* was a romantic mauve-brown swirly form, whilst *Easy* and *Loose* had delicate 'antenae' which quivered at the slightest displacement of air.

The more epic *Sculptural Lights* of Helen Aitken Kuhnen contrasted anodised aluminium with luminescent cast glass. Ari Athan's Occasional Light [illegible] inspired by 1950s depictions of UFOs with their [illegible]y for take off' look. Athans also experimented with papier mache in 'Green Balloon' and Red Balloon' which resembled just that, but in an interesting, texturised way.

Photos: Tom Loveday.



'Light Column', Penny and John Smith.



Stuart Montague's 'Chesty' night light.

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EXHIBITIONS

INTERNATIONAL FURNITURE DESIGN COMPETITION

International Furniture Design Fair Asahikawa '96, Japan

Situated on the island of Hokkaido, Asahikawa is one of Japan's major furniture producing districts and statistically speaking, the IFDC is not an event to be ignored. The competition is held triennially and this year took centre stage for the 38,000 people who visited Asahikawa's International Furniture Design Fair. Entitled 'Design With Love, Life With Wood' the third such competition attracted 1,353 entries from 42 countries. The exhibition itself featured the works of eight award winners and 23 finalists.

Antti Nurmesniemi, a designer from Finland and one of the selectors, commented of this year's finalists that 'This year's competition collection is quite rich with lots of different experiments, but without some summits, or "stars".' Certainly this is reflected in the exhibition catalogue. The finalists produced no less than four children's stools, in addition to an array of chairs, storage systems, and occasional tables and work stations.

Descending from outer space, an extraterrestrial would possibly conclude that this was a two-dimensional, flat-packed, 'dis'-assembled but self-connecting world. It would possibly say that for an exhibition that focused on timber, the exhibits didn't really seem to care much about wood at all. It might even wonder if the minimalist proportions and featureless timber and plywood of many of the finalist pieces had a kind of hungry, underfed look about them. And what was the big deal with children's stools—couldn't earthly offspring sit on the floor like normal extraterrestrial children? This display could just stave off an invasion from outer space, because if I was an extraterrestrial, I'd probably get back in my spacecraft and go home!

1 This year's winner or Grand Prix went to Danish designer Steen Duelholm Sehested for his 'Child's Stool'. Stamped from plywood the stool is a self-connecting form.

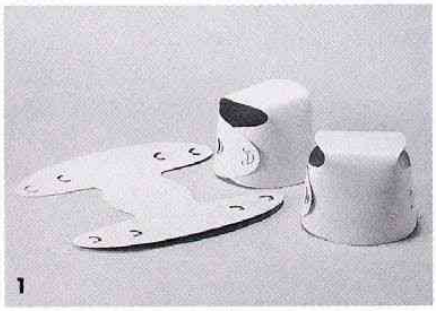
2 Another child's stool entitled 'Tomte' from German designer Gunter König won a 'Silver' prize.

3 The selection committee's Chairman's Special Prize went to Kai Hilpert of Germany's 'Bow Stool' made of birch

4 'Traveller': A lounge chair with music system made of American maple birch by Ari Mar Ludviksson from Iceland was one of the braver statements.

5 Standby: A Table For Flexible Living'. Birch ply, flat-pack, self-connecting, by Dirk Schäfer, Germany.

6 The 'Gold' prize went to Sirkka and Timo Saarnio from Finland for their birch chair 'Woody' which has a curved frame and perforated plywood seat. Steel rods give flex to the backrest.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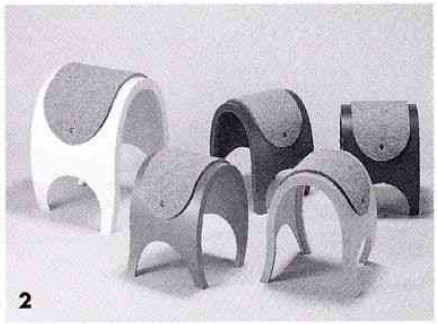
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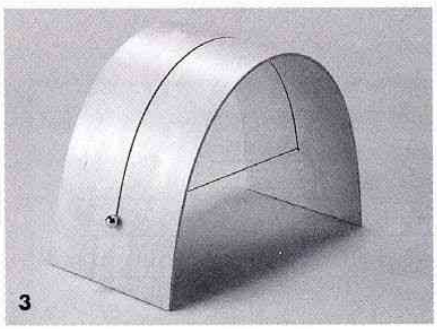
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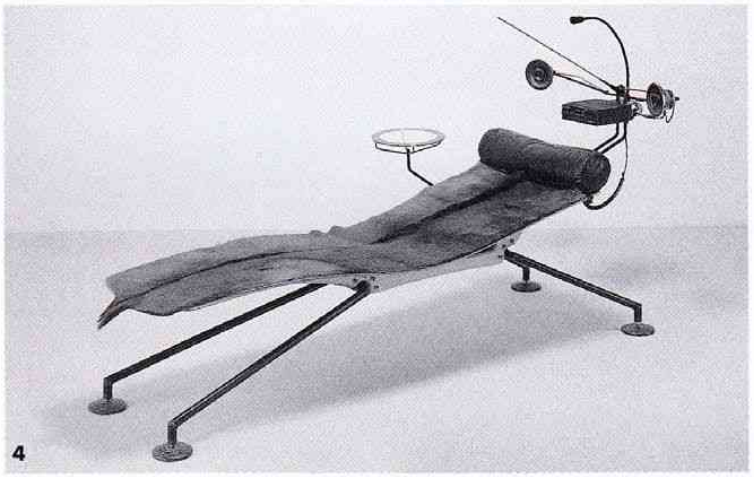
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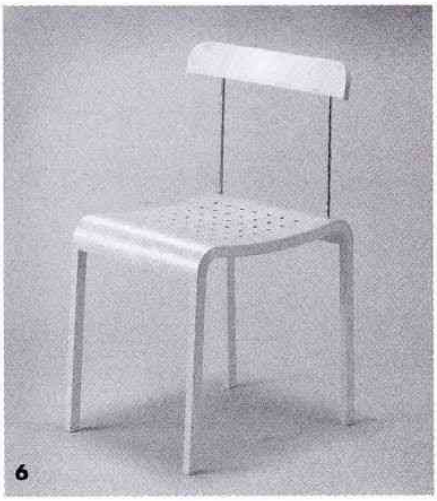
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By Philip Ashley

PANEL SAWS: STROKE FOR STROKE

The panel saw is the hub of the woodworking shop, large or small. Everyone has their budget, so what do you get for your money? Philip Ashley takes a walk through the major brands and compares the value.

When I recently asked people in the trade what they wanted from a sliding table panel saw, hardly anyone mentioned price, but almost everyone said value for money. It comes down to getting the same good results every time you turn the machine on. It's annoying when you have to check the squaring fence or perform any other pre-operational check every time you cut a sheet of board. If you have to do this you need a new machine, because you obviously can't rely on the one you've got.

Makes

I recently took a look at most of the sliding table panel saws available in this country, including the Altendorf, Casadei, Casolin, Ortza, Felder, Griggio, Lazzari, Magic, Martin, Robland, SCM, Top Master and Wadkin. Each manufacturer offers a few models and a range of optional extras. For this review a similar sized machine of around 3.2 metres was chosen from each supplier.

Sliding Tables

While appearances might be initially eye-catching, we were looking for performance, and the performing part of a saw is the sliding table. If this doesn't work, the machine is no good. Look for a machine with a roller carriage. They generally work better and last longer than the others, and usually give an accuracy of .002mm per metre of cut. When cutting sheets, any sideways movement will seriously affect the finish quality, and a roller carriage is designed to distribute the cutting forces vertically. Other systems such as the V-groove ball track will wear laterally, and not last as long.

Size

Size is important, as is rigidity, so look for a solid machine, preferably with a little weight behind it. There are some heavy machines on the market, and most of these have a concrete filled base frame. Be wary of vibration. A solid machine can reduce this, but a carefully designed machine does the job properly. In some machines spindle bearings mounted close together may increase harmonic resonance and therefore vibration.

Cost

At one end of the scale a 2.5 metre length of cut machine costs just over $10,000. At the other, a CNC machine with a 3.8 metre cut starts at close to $30,000. Of course you can spend much more than this.

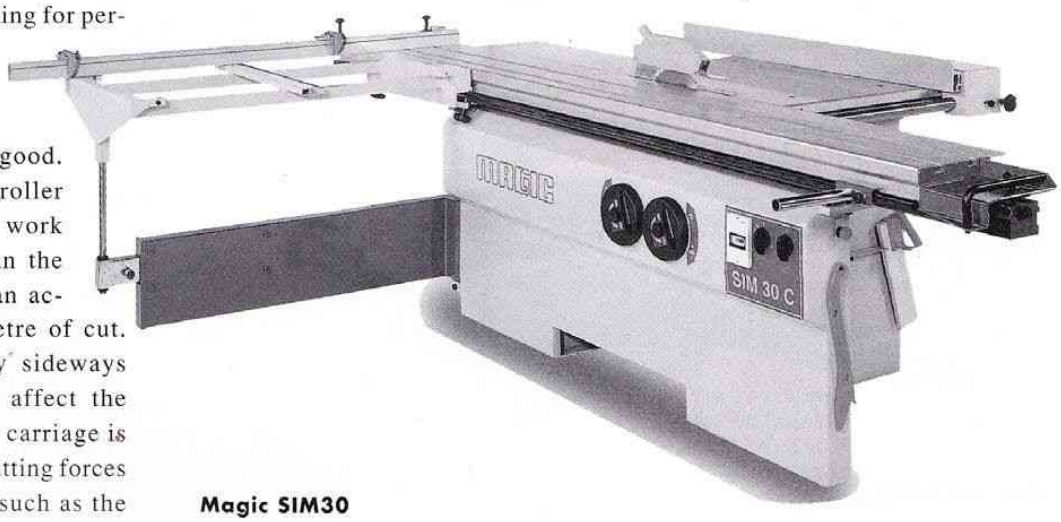
Budget Buys

($9,000 to $13,000)

You have to be careful here, because the cheaper machines may not always be a bargain. For instance, look at the table sizes. You can get a machine with a 3 metre table priced around $12,500, but for an additional five hundred you could get another brand with a 3.8 metre table.

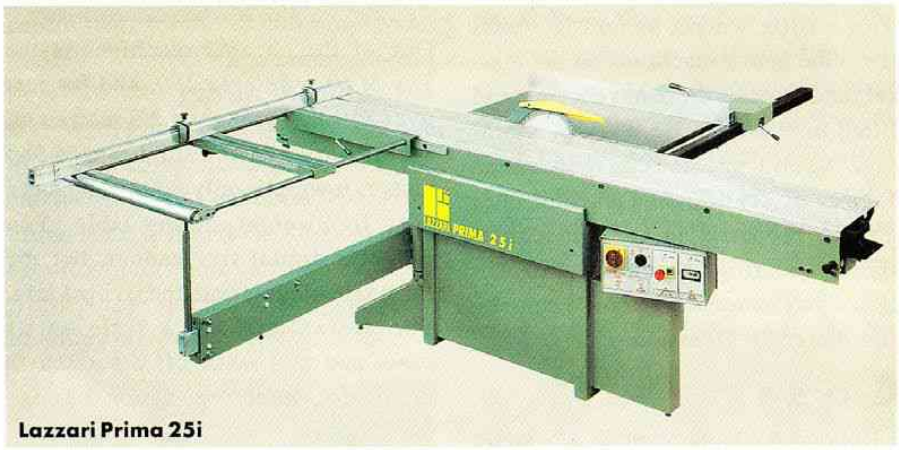
One of the cheaper machines is the *Top Master Selecta 250*, and for just over $10,000 you get a 2.5 metre cut, a tilting arbor, and a single speed 5hp motor. It weighs only 600kg and has a very lightweight sliding table. You do get a digital tilt readout, but the top guard mounts onto the riving knife. The mitre fence has a scale on its base, and this reads off a scratch in the T-slot mounting, which I found hard to see.

The *Lazzari Prima* is an entry level machine from the Woodman Group. The plastic handles are somewhat light-duty and small, the rise and fall a bit jerky and the table ran on steel strips fixed to the frame. The motor sits on an aluminium section. In spite of this, the scriber adjustment worked well, and at $8,950 it was the cheapest full-sized saw I found.



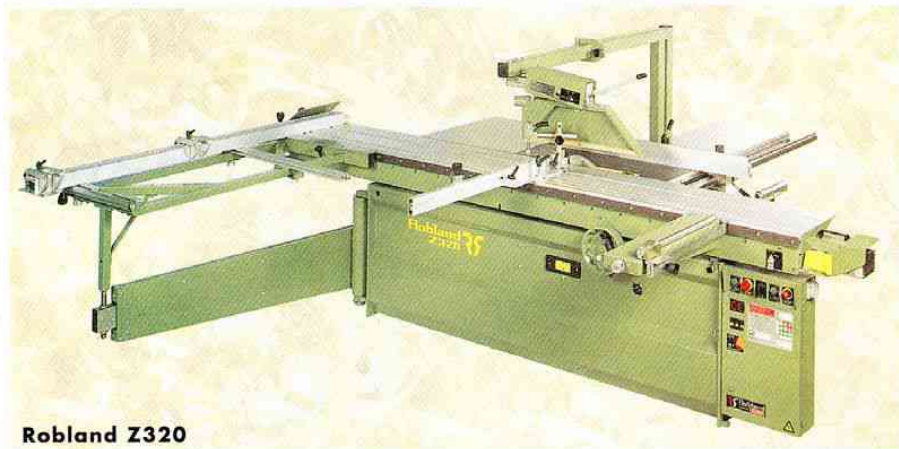
Magic SIM30

Altendorf F45



Lazzari Prima 25i

Casolin Astra Top Digit


Robland Z320

The *Casadei KS3* at just under $10,000 is another budget machine with similar features to the Top Master. The length of cut is longer, but width is not as generous. The cutting height is also not quite as good. The next model up is the *KS32* at just over $12,000, and for the extra you get a more powerful motor and a deeper cut. I found the Casadei table lock hard on the fingers—the knob is too small to rotate. The micro adjustment is also hard to operate on the cheaper machine, but the KS32 was OK. In grey and red it does look good, but all the budget machines have limited features and lifespan.

Magic's basic machine is the *SIM30*. It's just over $12,000 and while the length of cut is 3 metres, the rip width, as standard, is only 650mm. Saw projection is good and it is heavier than the Casadei, but again the guards supplied are of the most basic design.

The *SCM SI320* ($12,500) machine comes with a powerful motor driving both the main and scoring blade as standard equipment. The saw has a unique adjustment device for the scoring blade, and an automatic cut out when the cover is removed for changing belt speeds. Ripping capacity of 1500mm was excellent, but you only get one saw speed.

The *Felder K7XL* ($13,300) has some particularly interesting features. The table is supported by Felder's own patented system and uses neither ball bearings nor a roller carriage. The makers claim two million strokes. Using the machine I can only say that it is very, very smooth. I like the handwheels with the analogue/digital displays, and for a budget machine this could almost be the pick of the bunch.

Mid Priced Saws

($13,000 to $20,000)

At the lower end of this price range we find the *Robland Z3200* saw. For just on $13,000 this machine weighs almost half as much again as the Magic and Casadei machines. It is a really

solid piece of equipment. For the extra cost the manufacturer can now afford to give us three saw speeds. This is not such a luxury, because to get the best cutting results the correct saw rim (periphery) speed is essential, and three speeds will enable you to get pretty close.

Felder K7XL

The *Wadkin CP320* ($13,000) saw has a roller table with start/stop controls at the operator's end of the sliding table, as well as on the machine itself. The safety factors are debatable, but from an operator's viewpoint it's handy to be able to start the saw when the panel is on the machine. Wadkin have suffered over past years with a higher than average price tag, and there aren't many of these machines around, which is a pity because for the current price they are pretty good. The digital readout off a magnetic strip would be a good idea if the batteries lasted longer than a few days.

The *Casolin Astra* ($13,000) machine has a wide 1.5 metre rip capacity but surprisingly only 80mm depth of cut. The tilt handwheel is geared for quick adjustment, some of the others seem to take forever to get to 45°. It comes with a tool rack, and the measuring tape on the rip fence is adjustable—it's surprising how many are not. This is also a heavy machine, and the sliding table also runs on a roller carriage.

At just over $14,000 *Magic's MSW* machine is their biggest seller, and the suppliers claim there are a thousand of them in the country. It runs on a roller carriage and is a medium weight machine. For the extra cost over Magic's budget model you get a shorter cutting length, but a better equipped machine. There is an easy to read tilt angle scale in the handwheel itself, and the controls operate smoothly.

Griggio's SC3200 machine has big grips on the handwheels. On some other machines I cannot help feeling that my hand is going to slip off their small handles. The magnified sight glasses have two lines so you can line them up properly. On a single line system the measurement appears to change as you move from side to side. Griggio's stops are adjustable for wear, and the table has a four position lock. Another feature is that the scribe saw is shaft driven, but the main saw shaft bearings are a little too close together. The Griggio is a popular machine at $16,500.

The *SCM 3200 HYDRO* ($17,000) is similar to their model *320* but for the extra you get a hydraulic adjustment of blade height and angle, and three speeds. Saw projection is also much better.

The *Ortza Opal 37* ($17,500) offers a very good sliding table but only a one position table lock. The handles are plastic and felt a little ordinary. For just over $18,000 *Casadei* offer a *KS38* model and *Griggio* have the *SC3600C*. At just under 1,300kg the Casadei is one of the heaviest machines you can buy. Both are three speed machines with a generous depth of cut. The Casadei has a 7.5hp motor as standard.

Up Market Machinery

(Over $20,000)

For any machine over $20,000 you would expect few compromises. Machines in this price range fall into two categories: high quality machines and basic machines with CNC controls.

The *Altendorf F45* ($30,000) machine is probably the benchmark by which all panel saws are measured. Certainly, many of the innovative developments of Altendorf have found their way into other machine brands. Suffice it to say that operating the Altendorf saw is a pleasure. The machine has an excellent load bearing table, and the finish of the machine is excellent. It is expensive but people still buy more Altendorfs than any other sliding table panel saw. While other makes can last on average five years, Altendorf claim a 13 year average lifespan, and have some machines with well over 20 years of service.

The Martin ($31,500) is regarded as one of the best panel saws you can buy. While the sliding table panel saw was invented by Altendorf, Martin invented the tilt mechanism. Martin has been around for almost as long as Altendorf, and if you have the capital to invest in some good equipment, then these two German machines are the ones to look at. The Martin is the heaviest machine on the market by a long shot, and has the best depth of cut at 145mm. The tables are solid steel, and the motors are amongst the most powerful.

CNC Control

Magic, Ortza, Griggio and *SCM* all come with numerical control, and cost between $25-30,000, while the *Altendorf Elmo* and the *Martin CNC* are more again. Some of the controllers only operate the rip fence, while others control three movements simultaneously. Still other programmers will only do a single cut, and on some cheaper machinery there is the possibility of the fences crashing together. Observe the machine during

many different cutting patterns to see if you are going to have problems.

Your Choice

Almost everyone who has bought a small capacity machine has lived to regret it so get a decent sized machine. We reviewed 3.2 metre equipment, and this seems to be the norm. You should also look for a good auxiliary table. This is the table at the side of the machine, and if too small will limit the rip cut, over a metre would seem to be a minimum.

You're going to have to get down on your hands and knees to look at the sliding table movement. The table is one of the most important parts of the machine, and can give the most trouble. Some machines have strips of metal screwed to the sub frame, on which ball bearings run and support the sliding table. Efficiency will decrease after several years of operation. The 'Phenolic' rolling system similar to the Altendorf, is the one used on most machines over $15,000 and is characterised by a very deep aluminium extruded table. Remember if the sliding table doesn't work, the machine doesn't work full stop. An anodised table will prevent staining of the workpiece.

You will find two bearings on the saw carriage. One is at the pulley end and the other supports the sawblade. The common feeling is that the further apart these bearings are the better. There are some machines that have bearings as close as 75mm—this can lead to excessive vibration.

The location of the control handwheels may not seem to be much to worry about, but normally if the rise and fall handwheels are located on the front panel of the machine, some form of cabling is required to get the job done, and this may in some cases lead to operating problems as the cables come loose or stretch.

When you test the machine, check the table for smoothness, and look also at the height of the sliding table in relation to the fixed machine bed. The sliding table should be slightly higher, but on poor quality equipment as you slide the table forward, it moves up and down, and at points is even lower than the fixed bed.

Finally, the minor points may not worry you but I found that the finish on some of the parts were a bit rough on some of the lower priced machines. They are built to a price, of course, and you only get what you pay for, but often it's the little things that turn the eye.

The final question may be to ask yourself how much time your are prepared to devote to your selection. Without doubt, more time for careful comparison will result in your purchase matching your needs and not just your budget.

***Magic, Lazzari**: Woodman Group*
Vic (03) 9885 6104, NSW (02) 9708 3233, Qld (07) 3844 4433, SA (088) 346 4561, WA (09) 272 3844

***Altendorf**: Altendorf Australia*
NSW (02) 96883203, Vic (0412) 302 062, Qld (0412) 132 927

***Casolin**: Brisbane Saw Service*
(07) 3266 8611, Tech-Wood(03) 9315 9590

***Felder**: Felder Machinery*
(03) 9801 7728

***Ortza, Robland**: Ron Mack Machinery*
Sales WA (09) 445 2555, NSW (02) 9609 1700

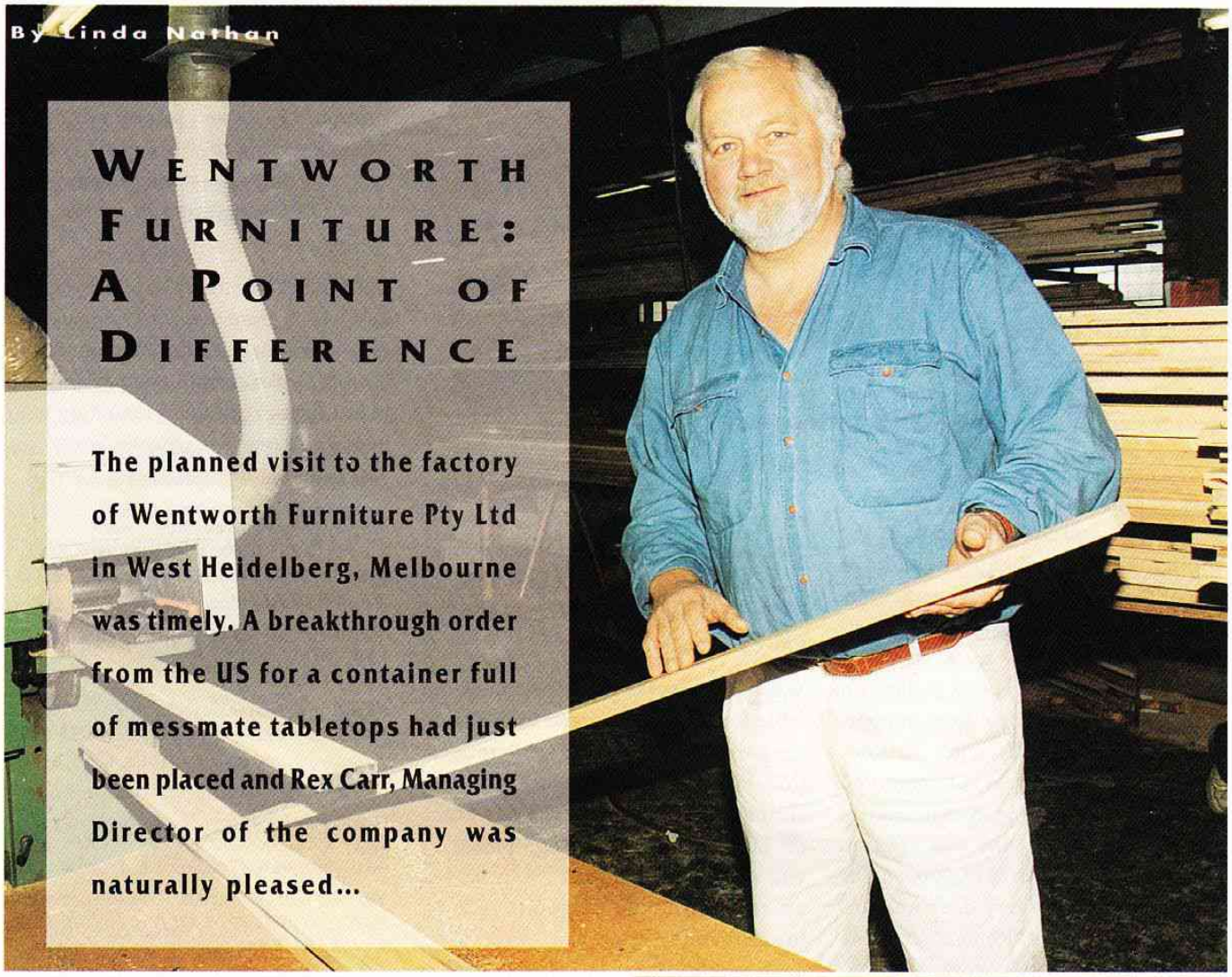
***Various makes**: Hare & Forbes*
NSW (02) 9933 8916, QLD (07) 3849 1888, SA (08) 8346 5522

***Various makes**: A-Class Woodworking Machinery (045) 773 685*

Make	Model	Main motor hp	Scorer hp	Cut lgth metres	Rip cut mm	Weight kg	Speeds rpm	Saw hght mm	Origin	$
Top Masta	*Selecta 250*	5	0.75	2.4	1220	600	4000	100	Italy	10,250
Magic	*SIM30*	5.5		3	650	800	4500	125	Italy	12,500
	MSW	5.5		2.6	650	800	3000/4500/6000	125	Italy	14,500
	EM1	5.5		3.2	1200	920	3000/4500/6000	125	Italy	25,500
Lazzari	*Prima*	4	1.0	2.5	1250		2800/4000/5600	100	Italy	$8,950
Casolin	*Astra 3000*	7.5	0.75	3.2	1500	1000	3200/4200/5000	130	Italy	13,000
Ortza	*Opal37*	7.5	1.00	3.7	1300	900	3000/4000/5000/6000	125	Spain	17,500
	CNC version								Spain	26,500
Robland	*Z3200*	5.5	0.75	3.2	700	1150	3000/4000/5000	125	Belgium	13,000
Casadei	*KS3*	5.5	0.75	3.2	800	600	4200	95	Italy	9,900
	KS32	7.5	0.75	3.2	800	685	4200	110	Italy	12,500
Griggio	*SC3200*	5.5	0.75	3.4	1500	840	3200/4000/6000	135	Italy	16,500
	SC3600C	5.5	0.75	3.8	1500	870	3200/4000/6000	135	Italy	18,900
	CNC version								Italy	28,000
SCM	*S1320*	7.5	None	3.2	1500	1050	4000	100	Italy	12,000
	S13200 Hydro	7.5	1.00	3.2	1500	1050	3000/4000/5000	130	Italy	17,000
	CNC version								Italy	31,765
Felder	*K7XL*	5.5	1.00	3.2	1250	885	4700	100	Austria	13,300
	K7X	5.5	1.00	2.8	1250	805	4700	100	Austria	12,400
Wadkin	*CP320*	5.5	0.75	3.2	740	1020	2800/3800/4500	125	England	13,000
Altendorf	*F45*	6	1.00	3.2	1500	1040	3000/4000/5000/6000	125	Germany	30,000
	CNC Elmo								Germany	43,000
Martin	*T72A*	7.5	1.10	3.2	1500	1500	2800/4000/5500	170	Germany	31,500
Paoloni	*P3200*	5.5	1.00	3.2	1500	890	3000/4500/6000	110	Italy	13,800

By Linda Nathan

Wentworth Furniture: A Point of Difference



The planned visit to the factory of Wentworth Furniture Pty Ltd in West Heidelberg, Melbourne was timely. A breakthrough order from the US for a container full of messmate tabletops had just been placed and Rex Carr, Managing Director of the company was naturally pleased...

With the potential to become a standing monthly order, Rex Carr felt the company was now going to be doing its bit to address Australia's balance of payment deficit. The initial $75,000 order was the result of the efforts of Victoria's Timber Promotion Council who in July this year sent a delegation from its Natural Feature Group on a market investigation tour to Chicago and the US East Coast armed with comprehensive sample kits and literature promoting natural feature grade timbers.

The delegation was very well received and returned with a firm order for more samples some of which were 'hand-balled' to Wentworth Furniture with its track record as a feature grade timber specialist. A little over a year ago 95% of the timber brought into the yard at Wentworth was pine, the remainder being hardwoods. Those figures have now been almost reversed as a result of a courageous new marketing directive which has seen sales rise and export orders come in. Eighty five per cent of the timber which Wentworth now buy in to make their dining, bedroom and occasional furniture is structural (natural feature) grade messmate.

The recent US order will require new vacuum wrapping technology to ensure the 8% moisture content specified in America (achieved here by a process of double kilning at the mill) is maintained through the arduous journey across

Top: Rex Carr of Wentworth Furniture. Centre: Wentworth's new 'Cosmo' blackheart sassafras range. Above: Feature grade messmate furniture.

the equator in shipping containers where temperature and moisture content can fluctuate wildly.

The changeover from machining, gluing and assembling pine has necessitated some machine upgrading and changes to the production process. Whereas pine is supplied dressed, the rough sawn or skip dressed native hardwood is machined through a Weinig four-sided moulder. Square sections from 55mm to 120mm must be laminated in the factory as these are not available from the mill.

A new dust extraction system has also been installed to handle greater volumes of airborne dust and shavings. There is also a beam saw, three double end tenoners and two wide belt sanders which have been set up in tandem. Made by Barker & Sparrow circa 1960, their cast iron construction can handle the abrasive native timbers. A Helma-Nohoma twin spindle moulder used for shaping chair and other componentry is in the process of being changed over for a 6-head in-line shaper.

The new darling of the factory is the Taylor Rediclamp system from E.J. Groth which swings panel after panel in an automatic circular orbit through gluing and clamping procedures. Bought three months ago the Rediclamp is producing 600 panels a day within a very compact area of factory. A new top of the line computerised carousel spray unit streamlines the finishing process.

Rex and Lyn Carr take the helm of a furniture manufacturing company which now employs 55 and, despite changes of company name and location, as well as a few setbacks, they have never been in a stronger position. The factory is a hive of activity. Walking out from the office which is adjacent to the loading bay, the production process can be viewed in reverse order. Moving through completed chairs, cabinets and tables, past stacked components, through areas devoted to spraying, assembling, sanding, moulding and laminating, the visitor progresses through to the machining sections. Around the corner and out the back is the timber storage yard where newly built sheds have been built to accommodate growing volumes of timbers purchased to meet new orders.

Over 25 years ago the company's first manufacturing efforts were pine toys which were designed and made in response to a perceived lack of quality then available on the market. In subsequent years diversification extended to kindergarten equipment, beds and finally furniture. The company has always used the provision of more product options as a marketing tool.

A progressive thinker, Rex Carr has also sought to create demand for new product. Wentworth's use of blackwood in a commercially produced furniture line (the *Lawson* range) in the late 80s was ground breaking. But where furniture made of blackwood only ever accounted for a few per cent of production volume, furniture made from feature grade messmate has now, at 80%, become Wentworth's trademark species.

The use of feature grade timber was first pioneered by the company in May, 1995 when it was used to make a bedroom suite which was displayed at the Australian Furniture Show in Sydney. The overall design of the suite was

A Hoffman Key Joining jig is used for fast joining of componentry.

intentionally simple so as to gauge public reaction to the timber, rather than the actual design. The favourable response at the show encouraged the company to dedicate its stand at the following National New Products Parade to messmate products—this was an outstanding success.

Rex Carr is the company's principal designer, although whilst he regards design as one feature of furniture that sets it apart he doesn't promote himself as a 'designer'. New designs are registered under the name of R.A.C. Designs (after his own name), though the whole process is very much a team activity at Wentworth. 'We come up with a design, then we all pick it to bits. There's no ego trip here. At the end of the day it's got to be viable.' Reaction to new lines are assessed by displaying prototypes at trade exhibitions or specific group displays.

Recent success on both domestic and export markets has been related to the new focus on native timber species. 'As Australians we've got the best smorgasbord of timber', says Rex Carr. Using native timbers in new designs is one way of putting Australia forward on the international scene. 'In 1995 we had nil exports. We have continuing ongoing commitment to our local customers, however next year we anticipate 30% of our output will be export, this will equate to our planned growth.'

At this year's New Product Parade Wentworth showed a new range of furniture. *Cosmo,* made from Tasmanian blackheart sassafras (which has, as Carr puts it, 'the ultimate natural feature') created great interest both locally and from Korea, Taiwan and Hong Kong.

Aside from developing and promoting his own company, Rex Carr is able to see the big industry picture and is pretty well fearless when it comes to daring to be different and even being able to share as well. 'You're really putting yourself at risk when the viability of your business is dependant on other people not knowing what you're doing. That's not going to get us internationally competitive. We've got to say, let them know, but let them wonder what we're doing next. You've got to have a vision.'

The vision Carr speaks of primarily relates to furniture manufacturers creating 'points of difference' about their products. The tendency once upon a time to go overseas and copy the new trends there has worked on the local scene where manufacturers were able to impress a domestic market and competed with the same sorts of overheads. Trying to win an overseas market share has been a new ball game however. 'Some of those people, buoyed wrongly by their success domestically, based on overseas designs, took those designs back overseas and sometimes in the translation they lost something. The designs were 'third-hand' and probably four years old. What we're trying to do as an industry association is to say to people, boy have we got a story for you, we've got something that's unique.'

Having a unique product is also the way Australian manufacturers can up their ante in the face of competition: 'Australian furniture being sold by manufacturers and retailers is too cheap by world standards. It used to be that

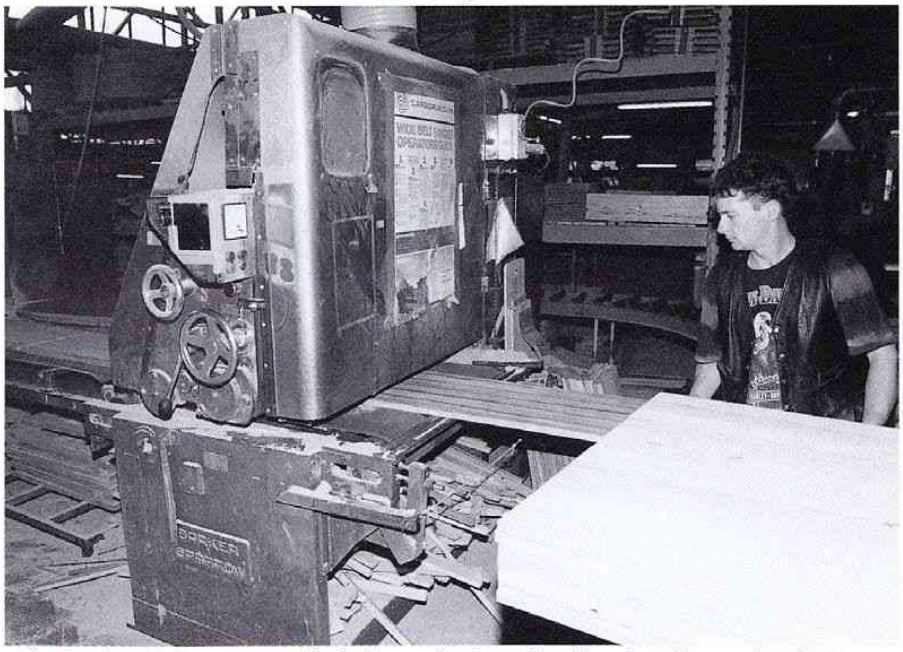
we were an expensive place to produce in, but now wages in many other countries are equal or greater that what we're paying. What we have to do is to be seen as being distinctly different. Countries like Singapore, Malaysia and Indonesia with their huge resources are going to increasingly emphasise quality and design, rather than price.'

On the local scene Rex Carr points to a deficiency in the furniture retailing industry. 'At shop floor level many of our people don't have the skills to sell. The easy option of selling on price dominates. There are changing patterns; people are not buying as many pieces as they used to, they want to buy better pieces. But at the floor level we haven't got the people with the skills to upsell.' He laments the fact the a traineeship course in furnishing product knowledge, developed by the F.I.A.A. in conjunction with Holmesglen Institute of TAFE in Melbourne, was not supported by industry with enrolments. 'The retailers were saying, "Things are too tough, we're already doing seven days a week trading now, how can I take somebody on and send them to school for half a day a week—and no one's going to go to school after work." Domestic sales of locally produced furniture are not going to take off until we have more salespeople who can steer customers to our products and successfully close sales in the face of opposition from other industries competing for the same elusive disposable dollar.'

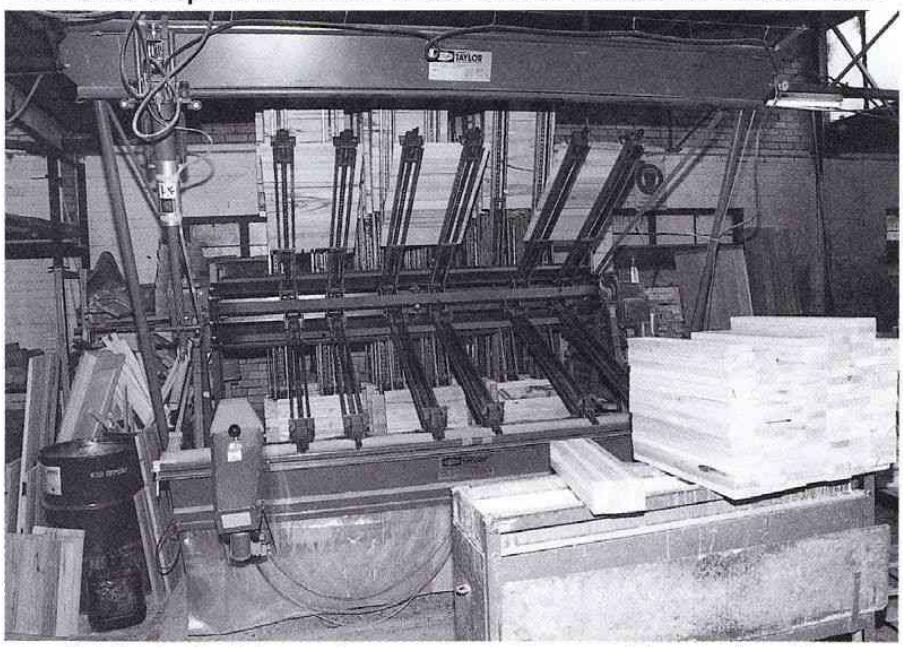
The export orders only serve to emphasise Rex Carr's final comment, 'It all gets back to the point, if you're doing something different, if you have a point of difference, an emphasis on quality and your price isn't too high, you've got a competitive edge'.

The footnote to the story is that not only did another order similar to the initial container load come through a day later, but this was compounded a week later at 'Highpoint' (the largest furniture fair in America) where Rex Carr met with his US wholesalers. The monthly standing order came through, but not for one but two containers a month—and that was in addition to a volume of Wentworth's own furniture as well!

Finish sanding bedheads.



The Barker & Sparrow wide belt sander handles the abrasive native timbers.



The Taylor Rediclamp glues up panel after panel in steady orbits.

The maximum number of features applied to a sliding table saw at a low budget cost.

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ALTENDORF Australia

By Rod Nathan

PROJECT: HALL TABLE

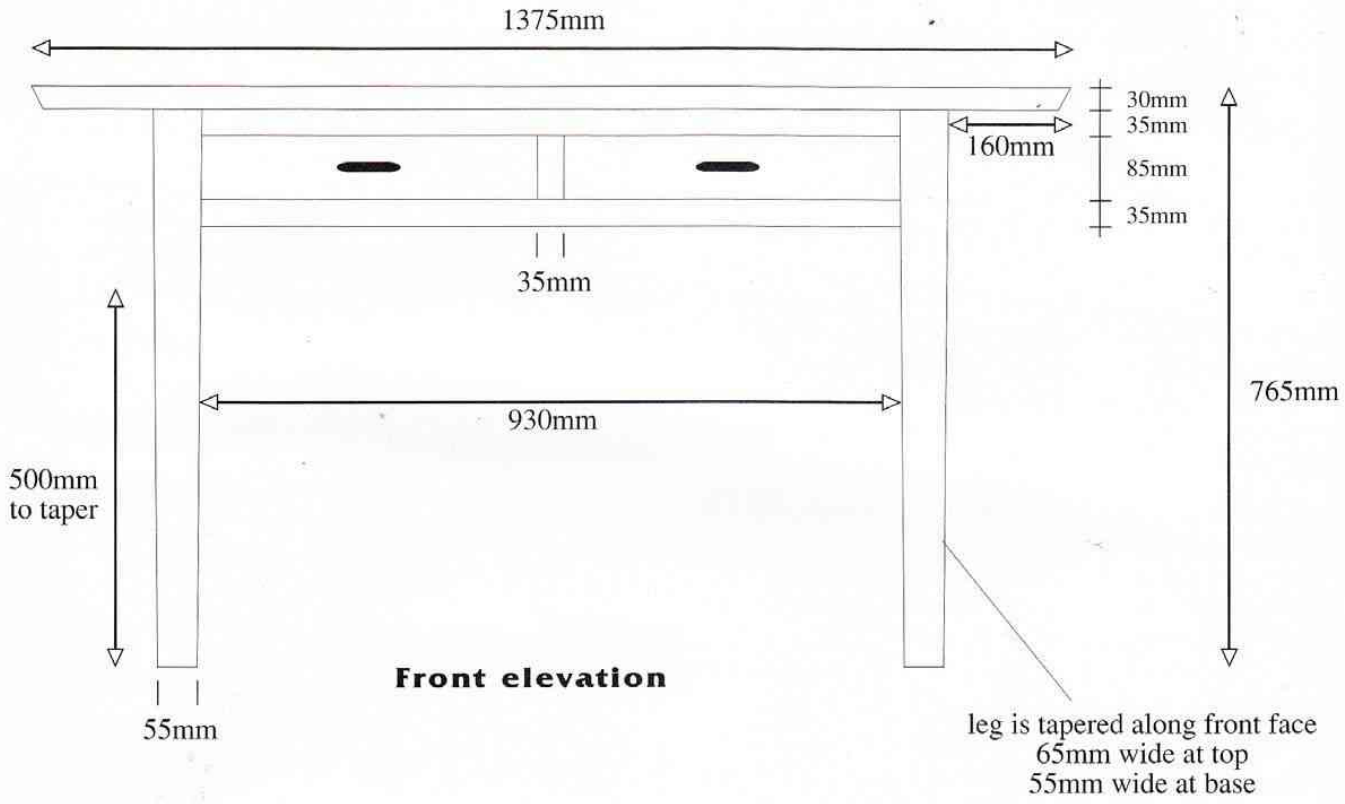
This table is an excellent exercise as its construction entails leg and rail joints, drawmaking, panel preparation, and leg tapering. Silky oak with contrasting drawer fronts of ebonized blackwood have been used here, however any timber can be used.

Tables similar to the one pictured above are often requested by customers. Financially the return on my labour is not as great as it would be on a full size dining table. There is less timber, but there are the same number of frame joints, and of course there is more work making the drawers. The two tables are related, in as much as the purchaser of a dining table very often wants a matching style hall table.

This table was made from silky oak, except for the drawer fronts which were blackwood and the drawer sides and runners which were made of ash. Purely for the sake of change I used 35mm square timber for the rails—the traditional choice here would generally be something like 65mm x 19mm. The thickness of the top here is 30mm, another modification from the traditional 19mm thick top which would also have been ample for strength and looks.

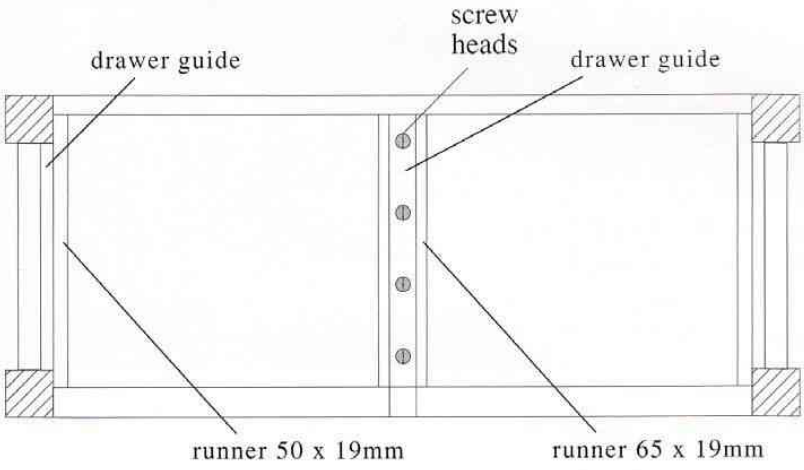
FRAME

The legs are 65mm x 40mm with a taper on the front face, which starts about 500mm from the ground and reduces the width to 55mm. Without

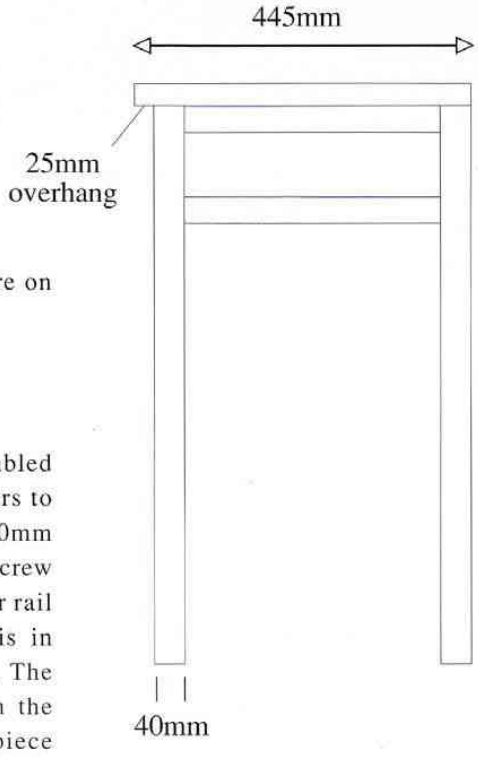


Front elevation

Plan view



Side view



the taper the legs look bottom heavy and unrefined. The rails at the front and sides use 35mm x 35mm stock. These are tenoned into the legs (you can use one large dowel, say 16mm, but this is not as strong).

The sides have a piece of veneered panel between the rails, which is fitted into a groove 10mm deep. The front rails have a short piece of timber joined in the middle as a drawer divider. The back is a solid board 155mm x 19mm, dowelled into the legs. Take extra care when gluing up to get the drawer openings square on the front rails.

INTERNAL JOINERY

Once the legs and rails are assembled the bits and pieces for the drawers to run on are needed. Fit runners 50mm x 19mm along the sides, glue and screw them in place. The middle drawer rail is 65mm x 19mm, I biscuit this in place when gluing up the frame. The draw side guides go in next, in the middle screw and glue in a piece

35mm x 15mm and along the sides use 15mm x 15mm. You should also add corner glue blocks for greater frame strength.

Quality work needs a top drawer runner or guide fitted, this prevents the drawer dropping down as it is extended. Use a piece 65mm x 19mm fitted above the middle drawer rail. I forgot to biscuit this in when gluing up the frame so I glued and screwed it in later. Cut grooves now in the top rails for table clips to attach the top, I actually screwed the top at the front and used clips on the back and sides.

Top

I make and fit the top and then make the drawers. The top is 1375mm x 445mm x 30mm, this allows for a generous overhang of around 160mm on the ends and 25mm along the front. I used two wide boards to achieve this, once glued and cleaned up I docked the top to length with a 30° undercut. I sand the underneath first, fix the top to the frame and then sand the top (as I use a portable belt sander fixing the top first makes it easier to sand).

Drawers

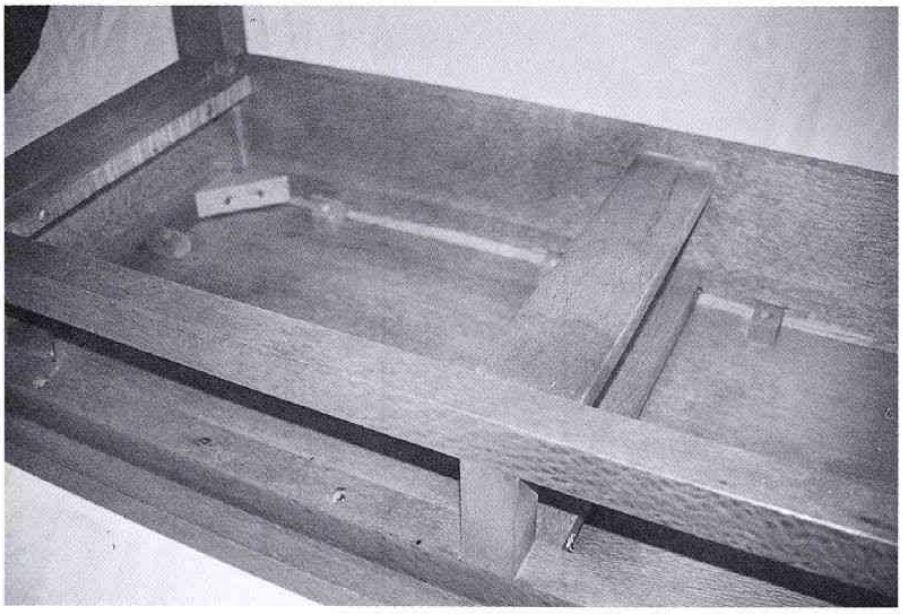
The drawer fronts are made from one long piece of timber cut in half to maintain the grain pattern. The front lengths are cut to fit the opening and are 85mm high and 22mm thick. The sides are also 85mm high but 12mm thick. I don't like drawer stops so I cut the length of the sides to stop at the back rail.

The front and side height of 85mm may need to be reduced to fit the actual drawer opening space. A close fit now on a dry day between drawer sides and runners may jam if the wood swells later on a wet or humid day. I dovetailed the sides to the front and then cut the drawer backs to fit, these are 12mm thick and biscuited to the sides. I ran a groove in the front and sides to accept a decorative plywood base. I fit the drawers before sliding in the plywood, as the drawer is easier to hold for planing or scraping (see photo in 'Making Drawers' this issue). Fit the drawer handles now and you're nearly finished.

Finishing

Now is the time for hand sanding. I break all sharp edges and sand from 100 up till 320 grit. I also added a decorative inlay on the top consisting of 35mm squares of dyed black timber 4mm thick (more about this technique for solid inlays next issue) The polisher coloured the drawer fronts to black but left the timber drawer handles natural. The table was sealed with orange shellac which adds a warm colour to the silky oak then sprayed with a lacquer at about 70% gloss. I waxed the drawer sides for a smooth pull, photographed the piece and delivered it the next day.

Internal construction revealed.



Cutting List

(measurements are all visible dimensions, allow extra for tenons; all timber silky oak unless otherwise stated)

Top
1375mm x 445mm x 30mm

Legs
4/735mmx 65mmx 40mm

Front rails
2/930mm x 35mm x 35mm,
1/85mm x 35mm x 35mm

Side rails
4/340mm x 35mm x 35mm

Side panels
2/360mm x 105mm x 12mm

Back panel
1/930mm x 155mm x 19mm

Drawer rails and guides (ash)
2/approx 365mm x 50mm x 19mm
2/approx 365mm x 65mm x 19mm
2/340mm x 15mm x 15mm
1/340mm 35mm x 15mm

Drawers fronts (blackwood)
2/approx. 445mm x 85mm x 22mm

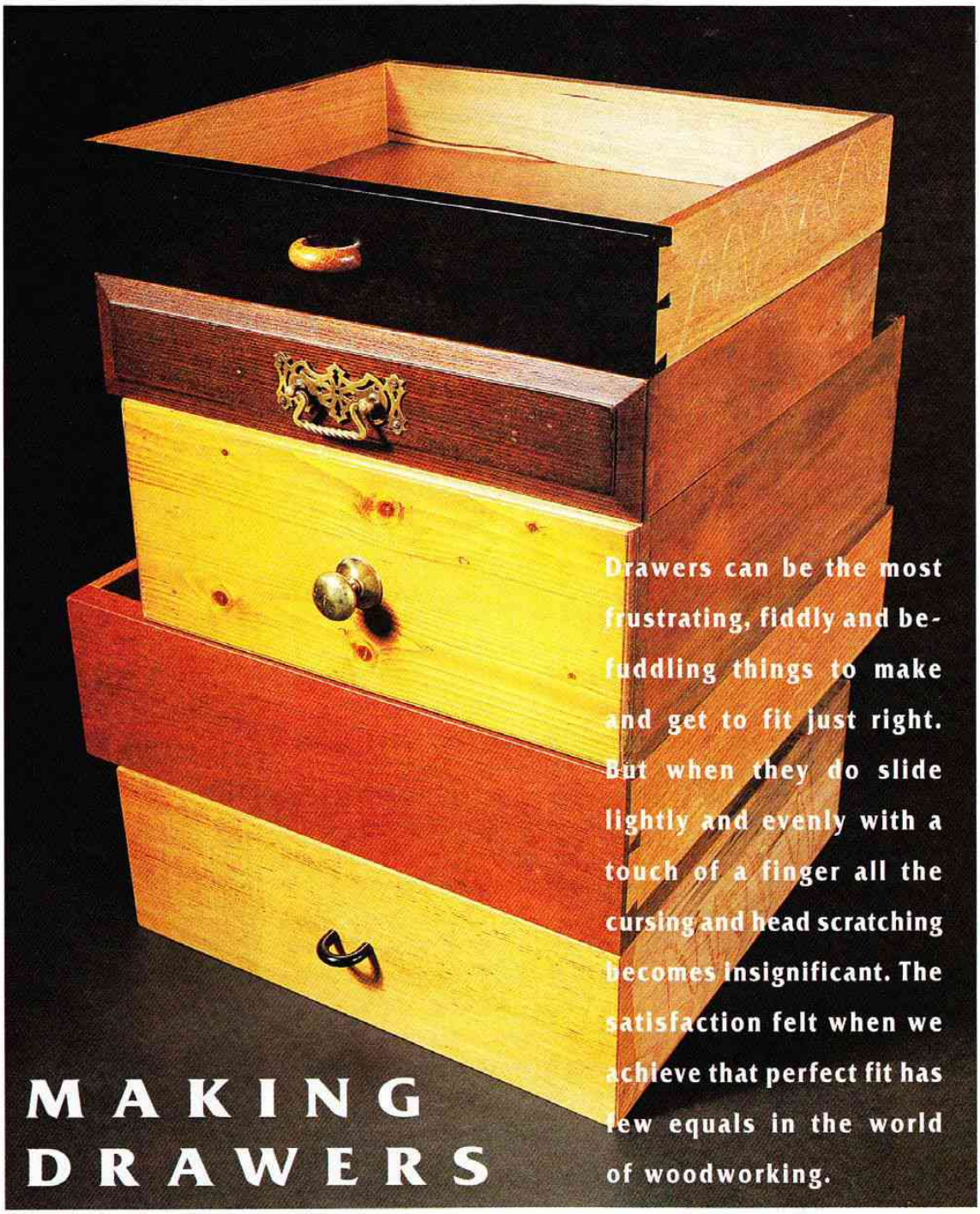
Drawer sides (ash)
4/approx 404mm x 85mm x 12mm

Drawer back (ash)
2/approx 421mm x 75mm 12mm

Drawer bases (plywood)
2/approx 433mm x 389mm

Inlay (dyed timber)
3/35mm x 35mm x 4mm

By John McLennan



MAKING DRAWERS

Drawers can be the most frustrating, fiddly and befuddling things to make and get to fit just right. But when they do slide lightly and evenly with a touch of a finger all the cursing and head scratching becomes insignificant. The satisfaction felt when we achieve that perfect fit has few equals in the world of woodworking.

There are different schools of thought, however, as to how things should be done. The right way to make and fit drawers is the one that works for you. In this article I'll show how I go about making and fitting drawers and discuss a few of the alternative methods.

MATERIALS

I like to make a feature of the drawers in my furniture and do this either by choosing highly figured timber for the faces or by using a more ordinary timber and shaping or carving interesting pulls into the drawer face. Either way selection of the timber is important, for the figure and colour should relate to other drawers in the cabinet and to other feature areas such as door panels.

The drawer sides and the rails they slide on should be made from hard wearing timber such as mountain ash or oak, as anyone who has had to repair badly worn slides will readily concur. A soft timber should only be used if mechanical slides are employed. Ideally the timber should be straight grained for easy hand planing and quarter sawn for stability.

One of the joys of a dovetail joint is the contrast in colour between pins and the drawer front, so if the face is of a dark timber, ash or oak can be used for the sides, if the face is made from a blonde timber consideration could be given to using blackwood or jarrah for the sides.

I prefer to make the backs from the same material as the sides to give the

drawers a visual unity, but as they are not load bearing or prone to wear, a softer timber could be used if desired.

Some debate surrounds the choice of material for drawer bases. Prior to this century solid timber was used for all drawer bases but this has been largely superseded by plywood. If Chippendale had access to plywood I'm certain he would have used it, but if you are making a period reproduction then you should probably use the traditional method.

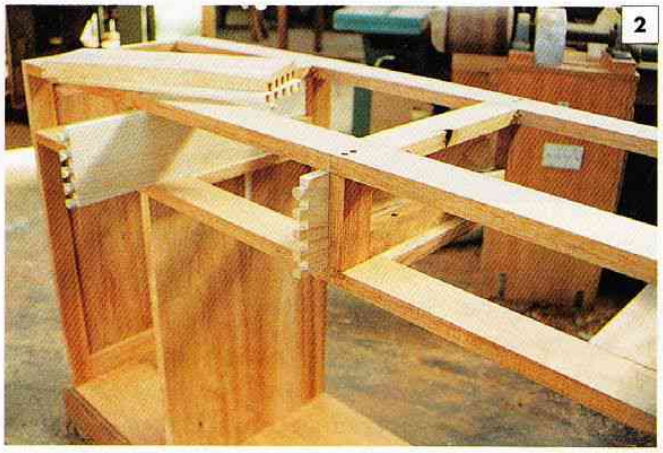
I use plywood because of its strength and dimensional stability. Three ply is fine for most drawers but large drawers may need to be reinforced with a rail in the centre or by choosing a thicker plywood. Sometimes I laminate two pieces of three ply to make a more substantial drawer base and choose a veneer to match the drawer sides and back.


1

JOINTS

Dovetails are to my mind the only joint to be considered for decent drawers. The action of opening a drawer tends to pull the drawer front away from the sides and the dovetail is the only joint that actually gets tighter and stronger with this action. Mine is a rather antiquated dovetailer that does a perfectly satisfactory job when set up properly, but more contemporary dovetailers offer much more variations than my machine. (See issue #11 for an excellent review by Anton Gerner of some of the dovetailers on the market.)

Like Anton I enjoy cutting dovetails by hand but economics often disallows me this luxury. The exception is for period pieces where a machined dovetail is inappropriate or very small drawers where my dovetailer is incapable of producing small enough pins. Machined dovetails are just as strong as the best hand cut joints and a much better choice than a botched or loose fitting handmade dovetail. For 'class' I prefer to also use dovetails for joining the back to the sides but a simple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housing joint could be employed if desired.

Runners

I may be prejudiced, but to my eye most commercially available drawer slide mechanisms look appropriate for a kitchen or a chipboard office desk, but devalue a better quality piece of furniture. The major exception is where the drawer (such as a file drawer) will carry a heavy load, or is extra large, and binding is almost impossible to overcome. In these cases I use a double cage ball bearing fully extendible mechanism (see photo 1). There are two types of wood on wood sliding systems I employ in my workshop.

Bottom Running

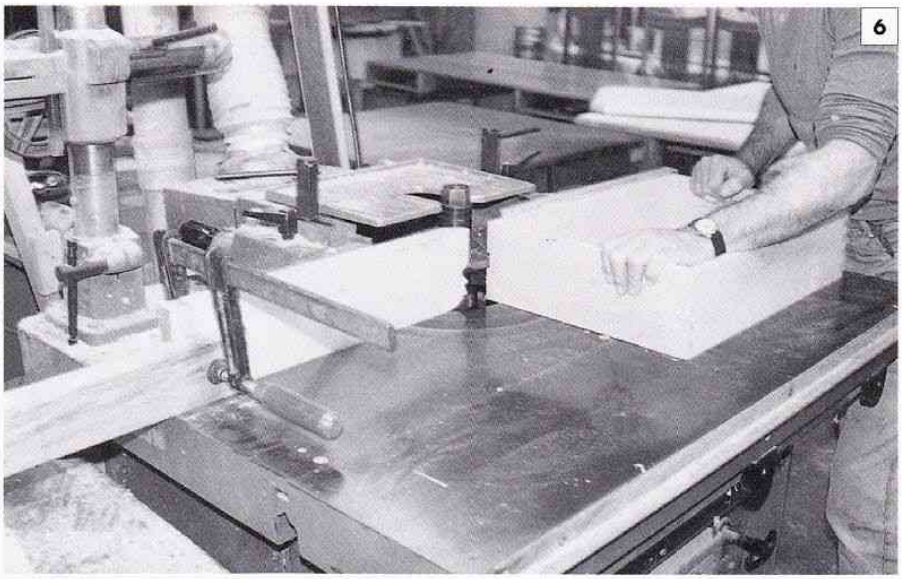
The drawer side is supported by a rail underneath, restrained by a kicker rail above, and guided by additional rails on either side (see photo 2). This method requires a stretcher rail across the front of the cabinet which can be exposed or hidden behind the drawer face if desired. If a dust shelf is to be fitted under the drawer then this framing is required anyway.

Side Running

Here the drawer is supported and guided by a rail that runs in a groove machined into the side. This method does not require any framing underneath the drawer and is a simpler system to make. It is essential to use a hard dense timber for both the drawer side and the rail for there is a relatively small load bearing area—usually only about 6 or 7mm wide. I make the groove about 25mm and 7mm deep and stop it just shy of the pins at the front (see photo 1).

Construction

I prefer to make the case before starting work on the drawers so that I can measure precisely the opening and make allowances for any differences that may occur between the drawing and the piece on my workbench. Cut the fronts and the backs about 1mm larger than the opening. Cut the sides to the required depth after allowing at least 10mm for a stop block at the rear.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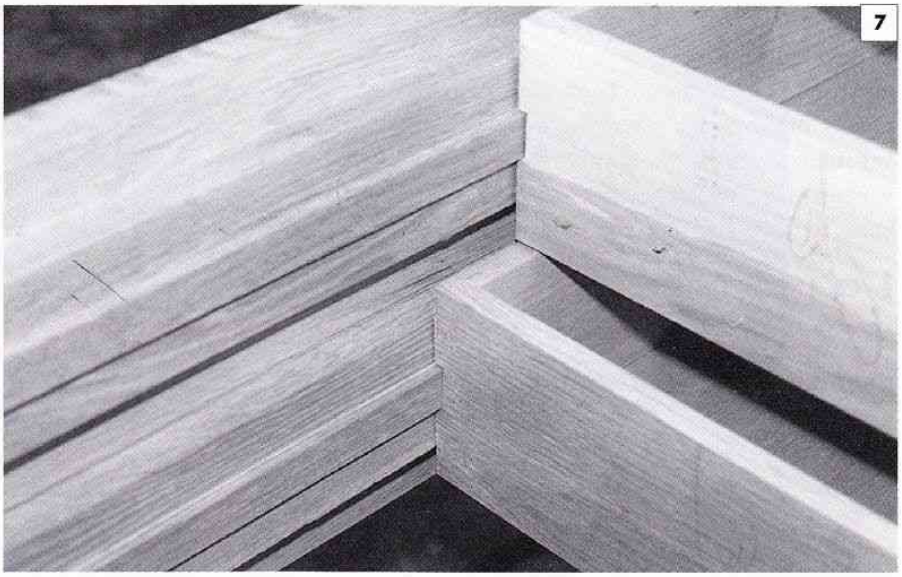
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For average drawers, dress the sides and back to about 15mm thick. The thickness of the front will depend on what moulding if any will be used, and the depth of the dovetail joint. I make my pins 15mm long so if I thickness the front to 25mm I'll have 10 mm available to machine a moulding. Sand the insides of all pieces before cutting the dovetails as any vigorous sanding later will only loosen the joint.

If using a plywood base, next cut a dado just wide enough for the ply to slide in and about 6mm deep. To slightly increase the width of cut the bench saw makes, stick a couple of bits of masking tape at 6 o'clock on one side and 12 o'clock on the other side of the blade to convert an ordinary saw into a cheap and effective wobble saw. The dado should be at least 10mm from the bottom of the side and if lined up with a pin will not be visible on the front when the drawer is assembled (photo 3).

I cut dados in the back as well as the sides and front, for if the ply base is cut accurately to size then the drawer will square itself when assembled. Others prefer to make the back smaller and screw on the base after assembly.

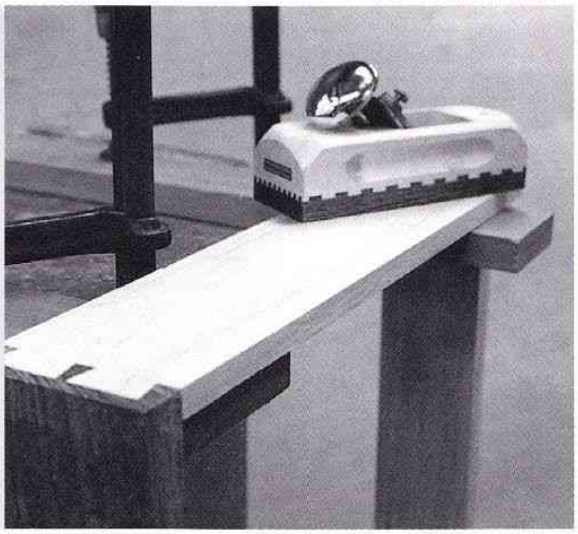
Before assembling the drawer, plane the sides to fit the vertical opening. Assemble using PVA glue and carefully check for squareness (photo 4).

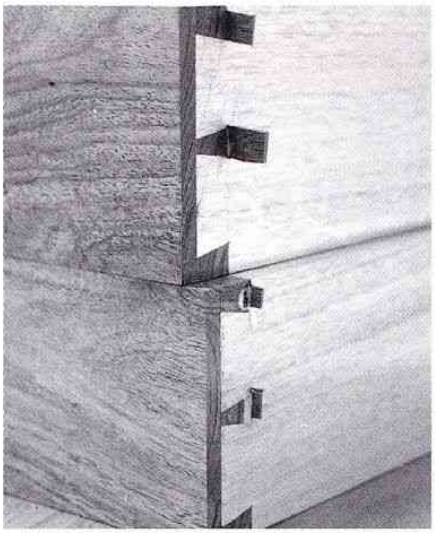
Fitting

After the glue has set the drawers can be fitted. They are about 1mm wider than the opening and this excess is now planed and scraped off whilst constantly checking the fit (photo 5). Planing off too much will allow sideways movement and cause the drawer

It is easy to support drawers for planing and fitting as shown at right, prior to fixing of plywood base.

Far right: Minor gaps in dovetails can be fixed by gluing in wedges of the same timber, then planing flush.





to bind. Work slowly and carefully here and try not to become too frustrated. One little trick I have learnt is to not fix the side guides into a permanent position until this stage, thus allowing for small adjustments to be easily made to the runners as well as the drawer.

You should be able to operate the drawer with literally one finger—no amount of wax or silicon spray will magically cause a sticking drawer to run smoothly. If it does stick, look for a shiny spot on the side which may indicate a high spot that is rubbing, and check inside the drawer for any signs of contact. Be particularly careful about the fit of the drawer front—it is very easy to take too much off and leave an unsightly gap.

If it is a bottom running drawer that's all that needs to be done. For a side running drawer the side guides and grooves then need to be made. I use the spindle moulder for this (photo 6) but a router does just as good a job. The guide should be an easy fit in the groove but there shouldn't be too much slack or binding will occur. It may be prudent to tack the guides into position whilst fitting before permanently screwing them in. One advantage of side running drawers is that fitting is easier because of the much smaller surface contact area (photo 6).

Moulding or Shaping the Front

One of the annoying limitations of cabinetmaking is the lack of good quality drawer hardware. The period reproduction market is reasonably well supplied but product quality is often poor. I find it extremely difficult to find good quality contemporary styled drawer pulls other than for kitchen, bathroom and office furniture, and usually end up making my own timber pulls.

This is probably why many of my cabinets have quite distinctively shaped drawer faces with the finger pull incorporated into the shaping. A rotary carver and the spindle moulder are used extensively for this in my workshop. There are a huge range of suitable mouldings for a router or spindle moulder and these can be carved directly into the drawer face or applied in the form of a cocked bead.

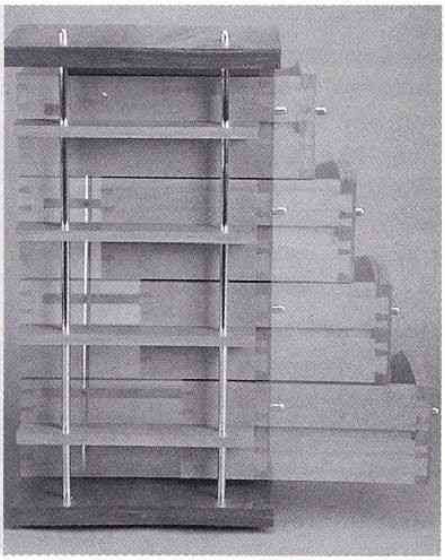
I prefer to fit the drawer before making the mouldings and leave installing stop blocks at the rear of the case until last. When they are in you should be able to happily push the drawer shut, listen for a swoosh of escaping air as it slides easily in, and hear the gentle 'thwack' as it reaches the end stops.

Chest of drawers designed on CAD (3D modeller) by industrial designer Simon Wende, currently a student at the Sturt School of Wood in Mittagong, NSW. The computer enabled Wende to experiment with angles and radii to determine exactly the necessary construction dimensions.

Due to the angled sides and absence of a carcase, the piece had to be made and assembled without any fitting along the way. Only very fine adjustments were possible after assembly.

The bottom of each drawer front was shaped and then used as a pattern for the top of the drawer front below it. Drawer slides were fixed to the stainless steel rods with recessed grub screws which allow a little adjustment to drawer heights.

The chest is made from fiddleback jarrah, red mahogany (*Eucalyptus resinifera*) and stainless steel rod.



By Richard Vaughan

EXTENDING THE USE OF YOUR ROUTER PART II

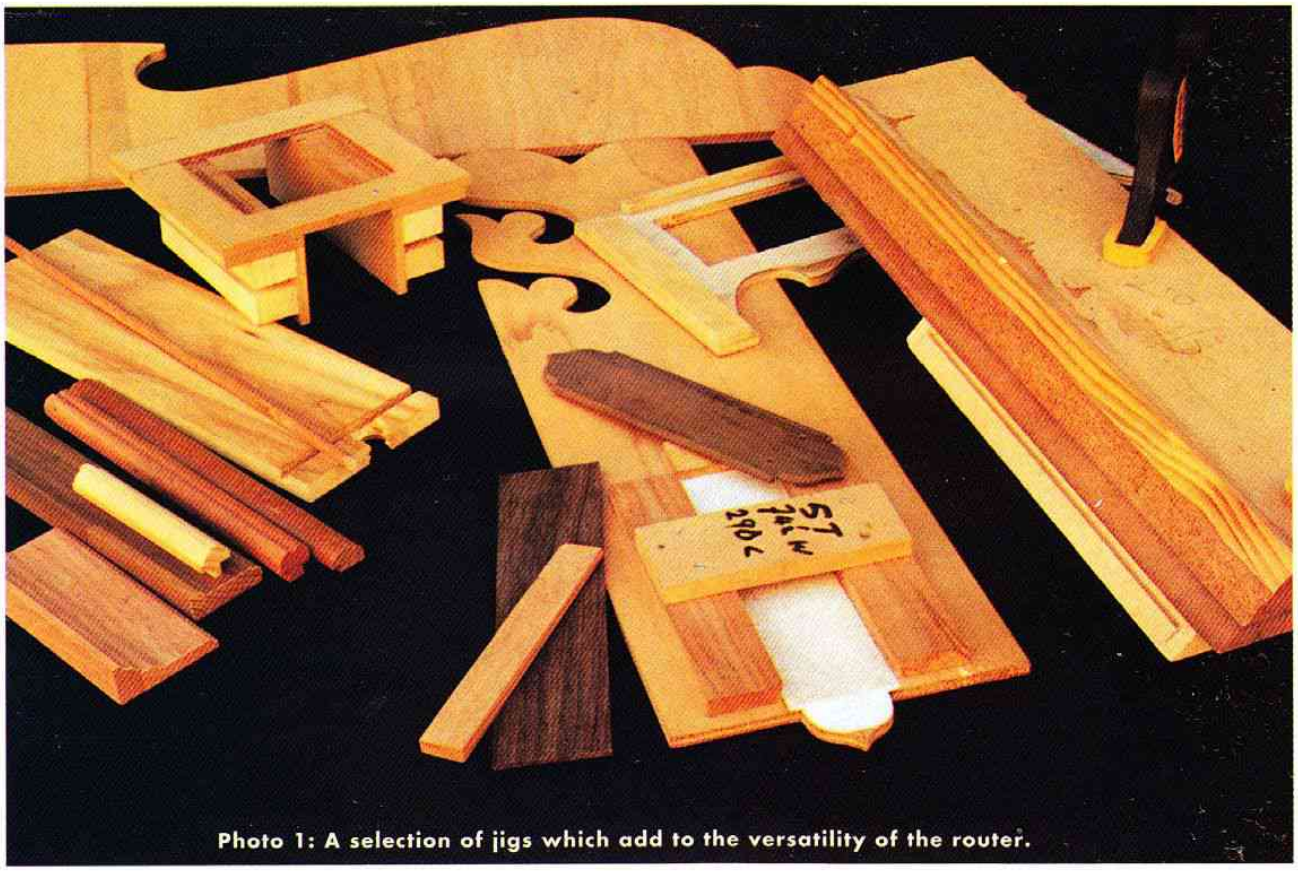


Photo 1: A selection of jigs which add to the versatility of the router.

The time spent making an accurate jig is more than repaid in the time saved by the speed the job can be done. Just as important is the accuracy which jigs give, which again amounts to more time saved.

PROFILE WORK

The simplest jig would be the template for profile shaping, such as for the apron of a dresser or an elliptical table top. Start by transferring your design into a full size drawing on 3mm MDF—this allows you to refine the shape and proportion. Take a copy from this drawing with tracing paper and either copy it to the template material with carbon paper or simply stick it there with spray adhesive. Using half the shape, or a quarter for an ellipse, will give perfect symmetry.

I have found very little use for the template following sleeve which comes with most routers, preferring the convenience of the bearing bit which can transfer the exact size of the template. Having both top and bottom mounted bearing bits allows you to work with the grain without moving the template. When building up layers of chipboard for a former to glue up a laminated shape the bearing bits are a quick way of duplicating the profiles.

MDF with a minimum thickness of 6mm is ideal template material because it shapes so easily. Sealing and waxing the edge helps it last and to run smoother but it is quite soft so for extensive repetition work better grade plywood or even perspex is preferable. It is a good idea to test the smoothness and accuracy of the template edge by tracing it with a sharp pencil onto your full size drawing.

The template needs to be large enough for the clamps not to interfere with the router and for the router bit to be guided clear of the workpiece at each end of the cut. Have clear location marks, especially centre lines, on both template and workpiece.

Smaller templates may require a jig such as the one shown for the door plate in photo 1. Note the sandpaper glued to the jig for grip and the wedge to lock the workpiece in place.

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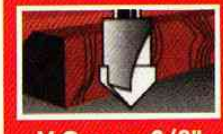
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Circles

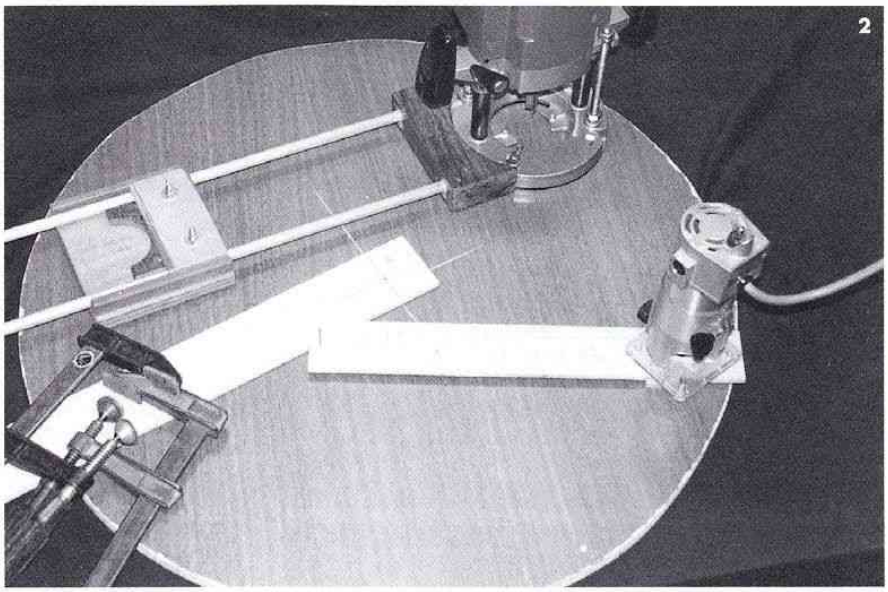
Circle jigs can be very basic or a bit more refined as the one in photo 2. The simple one is no more then a piece of board with the router/trimmer screwed to it and a nail to determine the radius. In the smarter version dowels are locked in the holes provided in the router base for the standard accessory fence. The dowels which determine the radius are sandwiched between sandpaper covered faces and locked with wing nuts.

If you are working from under the workpiece you can put the centering nail directly into it, but if you can't have a hole in the workpiece the simple solution is as illustrated in the photo. The centering cross on the workpiece can be aligned with the cross on the board clamped to it to receive the nail. Bandsaw or jigsaw within a couple of millimetres of the circumference then rout the balance for a clean edge. From experience I've found a sharp bit is essential for going against the grain.

Photo 1 also shows a jig I used with the trimmer to rout insets in some bedposts. The jig was clamped to the bedpost and the trimmer base ran on the post within the jig's fences. It was very simple to chisel the corners square and the whole process was much quicker, and probably more uniform and accurate, than chiselling all 28 of them. Even if only 6 were needed the jig would have been justified.

A strong mitre joint is often required in furniture making, typically for a veneer board carcase or for plinths and pediments. If you don't have a biscuiting machine and don't feel like doing a secret mitred dovetail then the simple router jig on the left in photo 1 will prove useful.

Clamp the mitred workpiece flush with the jig to provide both a wider bearing surface for the router base and a guide for the router fence. Choose a bit which gives a snug fit for a spline made of plywood.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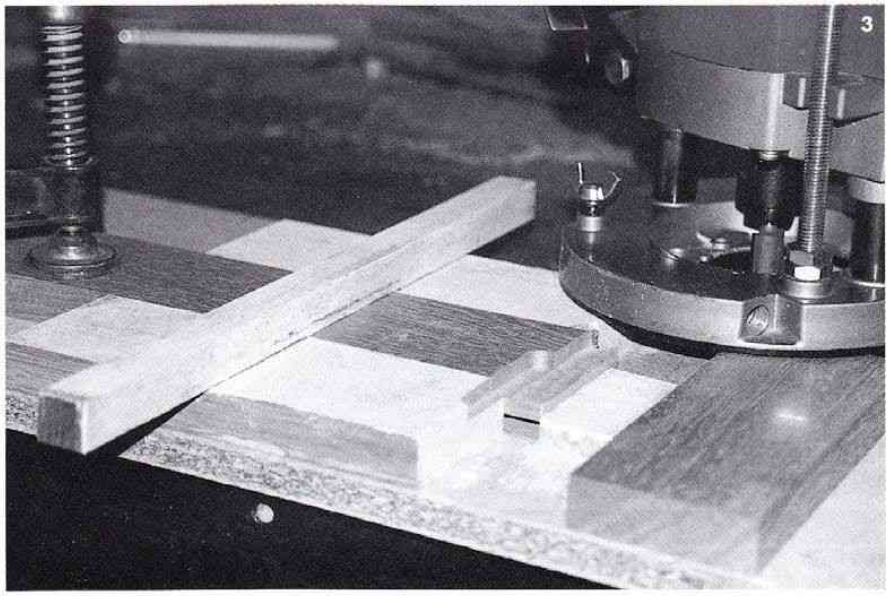
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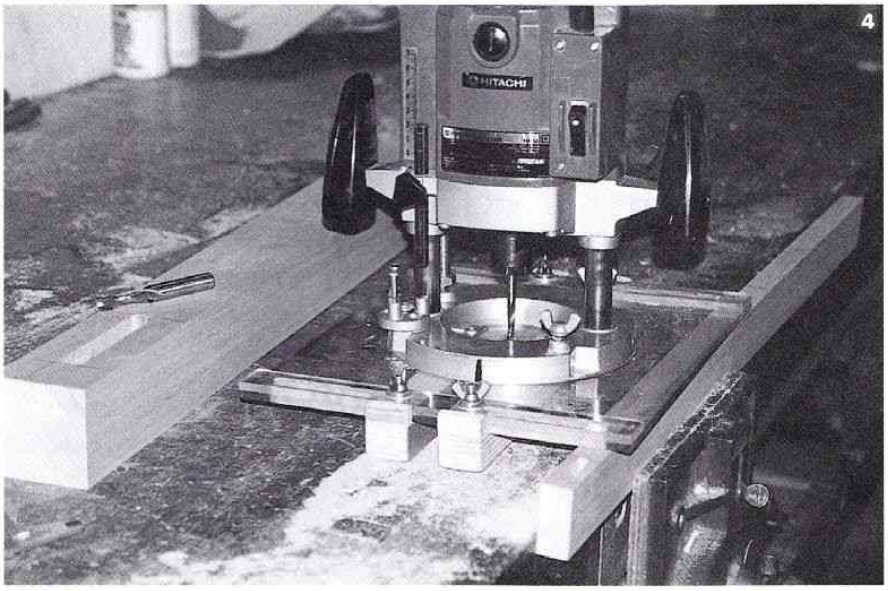
Mortise And Tenon

The mortise and tenon is a wonderfully strong joint but is rather tedious to cut by hand and the purpose built machinery doesn't fit in many Christmas stockings! The illustrated tenon jig is so simple and effective I wish I could claim credit for its conception (see photo 3).

The piece to be tenoned is held between offcuts of the same thickness (painted white for clarity) The router is further supported by another offcut and runs against the fence pinned to determine the length of the tenon which is hard against the stop. Note how the offcuts support the shoulders of the tenon against breakout.

You may recognise the mortising jig (photo 4) as incorporating the base plate shown in the first part of this article (AWR #12). The front and back have been strengthened with an extra thickness (probably unnecessary) stuck on with *Weldbond* because even silicone doesn't stick to polycarbonate. The slots for the bolts with wing nuts were routed. The guides are made of ply for stability and faced with laminate for low friction and long wear.

The end cut Onsrud HSS spiral bits (available from Garrett Wade Australia) shown in photo 3 are ideal for mortising. I devised this jig for my students but have since used it in preference to the side mortiser on the combination machine. Obviously you take it in stages, setting the depth of



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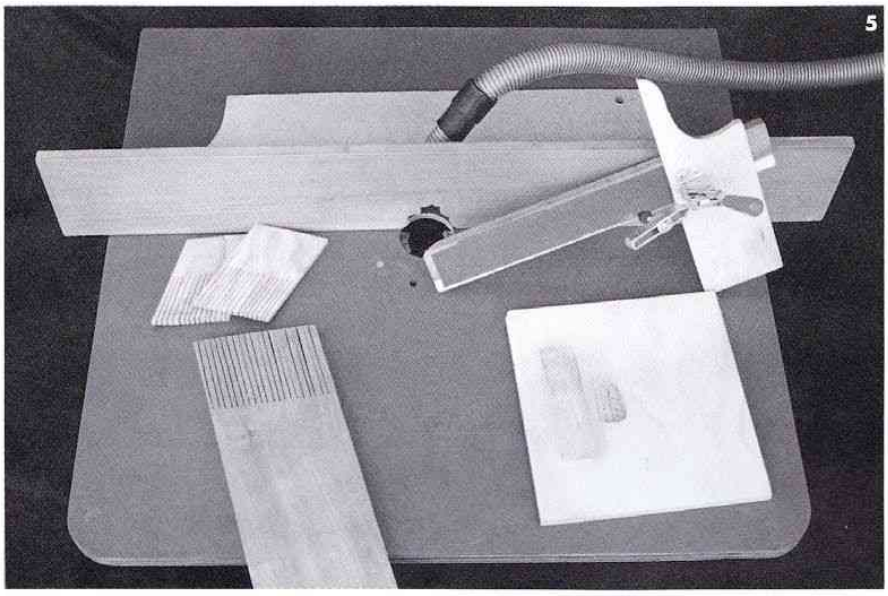
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cut for what is comfortable for the job.

A Router Table

A router table will increase the capabilities of your router even further. There are several very effective router tables on the market but it may be that you don't want to spend the money, or that you'd rather tailor make one to your particular requirements. When selecting or designing a router table there are a few points to consider.

Firstly decide whether your space can afford a permanent router table or whether it should be stowable. If it's to be permanent you could increase its usefulness by storing router bits and accessories as well as your sharpening gear, scroll saw etc. in it and perhaps having an extra top to protect the surface of the router table. Lockable castors may also prove handy.

If you opt for a stowable version you might hinge it off a wall, or like mine hang it off the bench under which you can store it between times. In either case experiment to be sure of a comfortable working height.

Some very sophisticated router tables have been created and many designs have been published over the years, however the one shown here (photo 5) has offered great versatility and served me well for over ten years. Clamps can be attached at any point around the edge to hold whatever guide, stop or jig the job requires.

The top needs to be utterly flat, strong and stable, yet thin enough to allow adequate depth of cut. 6mm plywood reinforced with 12 or 16mm. plywood ribs is an easy solution. You'll probably regret it if you don't put the tough low friction surface of a horizontal grade laminate on it.

The simplest way of attaching the router is to mark its base plate screw holes to the table then drill and countersink these for hanging the router by its base screws. These screws are probably metric so if you need longer ones be sure to match the thread.

You can also buy, or make your own, extended base to support the inverted router in a rebate in the table. This is very convenient for switching between table and non-table use. Perspex is brittle and prone to sagging so go for polycarbonate or phenolic resin. Ready made enlarged phenolic resin (*Tufnol*) bases to suit most routers are available from specialist suppliers.

Do not scrimp on the size of the table. There are bound to be jobs when you're glad of maximum support so make it as large as you can comfortably reach across. 450mm in front and each side of the bit works well Dust extraction is essential on a router table. As well as limiting the muck going into your lungs you'll reduce the costly wear on the motor caused by chips falling into it.

It makes sense to have the dust extraction working off the same switch as the router and to have that switch very accessible. This accessibility is a safety consideration, (to avoid groping near the whirling bit for the router switch) but it is also a matter of convenience which will encourage you to turn the router off whenever it is not in use. The bearings will wear out much quicker if you let the motor run on when it's not under load.

The Fence

The fence is almost always in place even when it is not being used as a fence because it both guards the bit and collects dust. Occasionally you

may need to remove it, such as when using bearing bits for inside curved work. For these situations you can make a sleeve which attaches under the table for dust extraction.

The fence is made entirely of manufactured board. In an early version I made the mistake of making a timber cleat between the base and face. This naturally expanded and made the fence face off-square to the table. Melamine or laminate would be a nice touch on the face though my polyurethaned and waxed veneer has survived OK.

If the top of the fence is also true and exactly parallel to the table you can use the jig shown in photo 5 for dovetailing the ends of rails, lock mitre joints (which are excellent for plywood drawers) and for tenons. Once again sandpaper glued to the jig will enhance the grip on the workpiece when the toggle clamp is locked down. The fence is 150 mm high—less wouldn't give enough support.

Also shown in this photo are feather boards to be clamped to fence and/or table to safely run the workpiece firmly against the cutter. The board with sandpaper on its leading edge, and the handle for clamping and/or gripping, is used on the table when routing the ends of narrower pieces and for supporting the back of cuts against breakout.

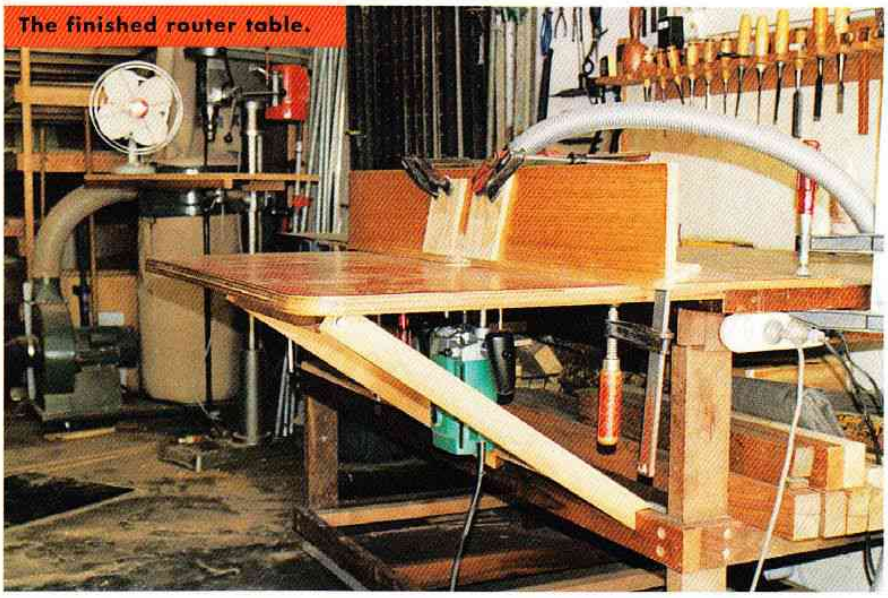
Mouldings

With a router table you can make an endless variety of mouldings, pediments, skirtings, beads and picture frames. Wider mouldings are built up by gluing together the individually routed profiles. When routing thinner pieces it is important to thoroughly support the wood so it doesn't chatter and give a rough cut, or disintegrate into splinter shrapnel.

Rout a slot the size of the piece to be moulded into a piece of scrap board. Slide this board across the table against another board clamped to the table until the bit is cutting the profile you want in the wood pushed through the slot. The 8mm square stop bead in photo 1 is sitting on the board (inverted for the photo) used to support it using this method.

Devising jigs is an absorbing and rewarding aspect of woodworking. The ingenuity of some that appear in magazines can make you wonder if the jig was the end rather than the means. Nevertheless whether you find pleasure in simplicity or complexity your scope for jigs for the router is certainly unlimited.

Richard Vaughan is a professional furniture maker who also gives classes in woodwork and router usage.



The finished router table.

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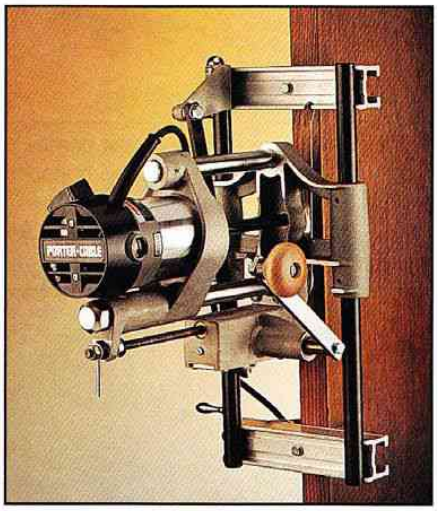

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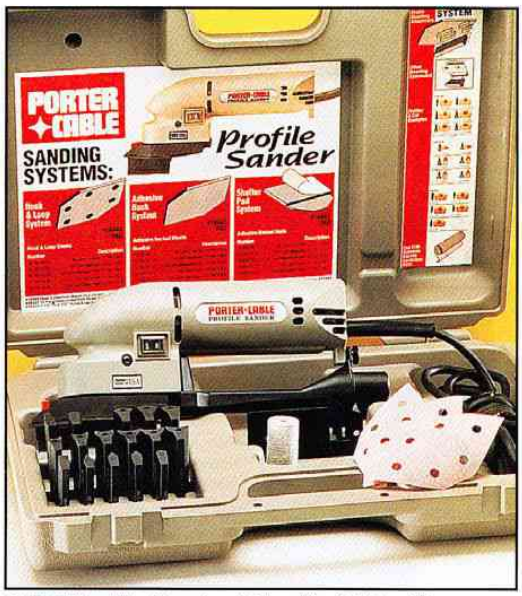

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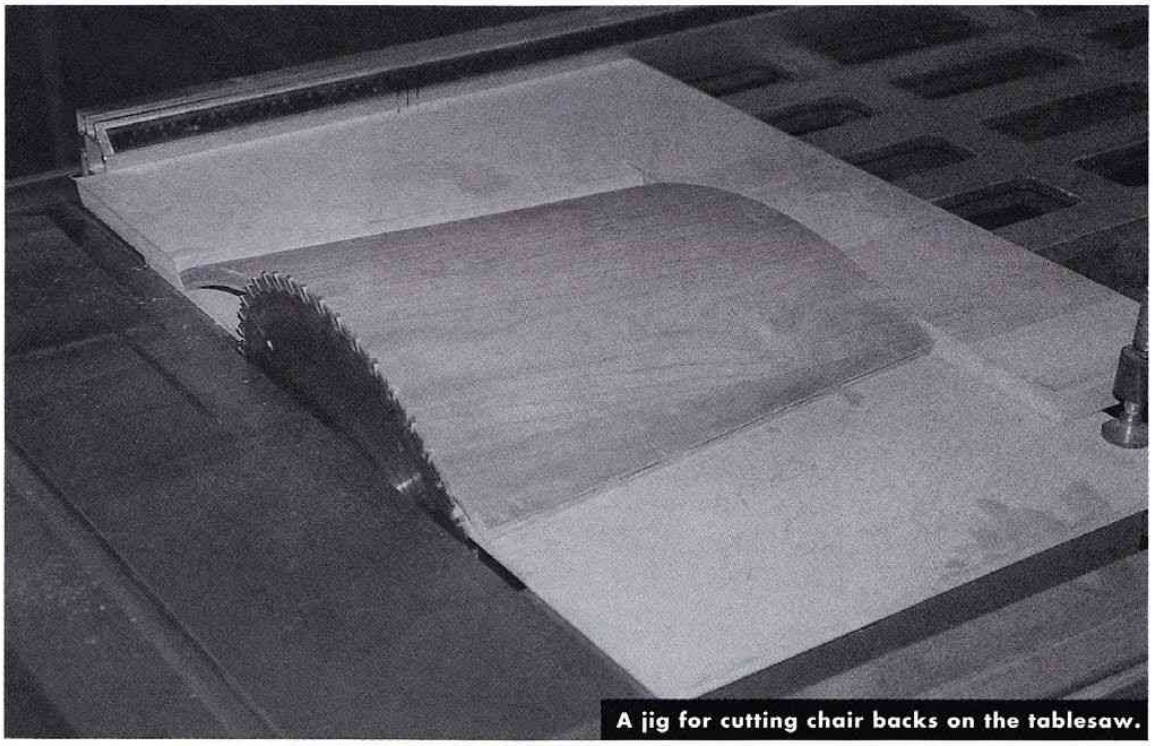
By Anton Gerner

MAKING AND USING JIGS FOR SPEED AND ACCURACY



A jig for cutting chair backs on the tablesaw.

Most woodworkers will at some stage need to produce more than one of an item. From a simple operation such as shaping a leg, to a complex production run of chairs, jigs can greatly improve accuracy and reduce time spent on set up. Jigs make production runs go quickly and smoothly every time.

They can be time consuming to make, but you will save time on successive jobs. Jigs are also a plus for safety—many operations not normally possible with power tools can be accomplished with the aid of jigs. Small or irregularly shaped pieces of wood can be safely machined where it would be dangerous to guide the wood by hand.

Making Jigs

Jigs can be built in two ways. For quick set ups (where you only require the jig for a one-off job) nails, hot glue and MDF can be used to quickly construct a jig for the job. For batch production runs, where you intend to use the jig many times over, very accurate and sturdy jigs must be carefully planned and constructed.

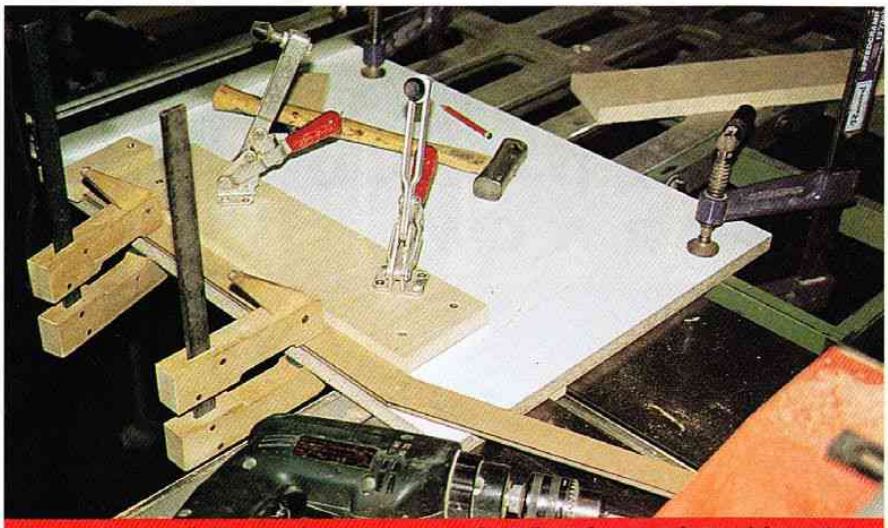
The planning part often takes place at the workbench, where you work through a problem, making up the jig as you go. Accurate marking and measuring of lengths and angles is essential. You don't want to discover halfway through a production run of chairs that you have cut the wrong angle on the side rails.

For the construction of most jigs I usually use 19mm MDF with timber guides and stops. All pieces are screwed and glued together. I often glue coarse grit sandpaper to jigs to make sure the workpiece will be held firmly and won't slide around.

Often jigs are stored away for months between jobs and it is easy to forget exactly how to set them up ready for use. I make notes on the jig itself about set up, usage and any problems which may be encountered. Recording details such as blade angles, set up steps and clamping methods will save considerable time.

Hold Down Clamps

Quick release horizontal and vertical hold down clamps are available in various sizes for almost any production jig. Straight line clamps are also available for push action jigs. All have base plates with holes for screw



Construction of jigs is often a matter of trial and error, but with various tools and some time, accurate set ups can be achieved.

Jig for cutting chair backs: In production situations a series of complex jigs may be devised to cut irregularly shaped components such as curved chair backs. I have made two such jigs for the cutting of chair backs in a production chair that I make. First the pre-laminated backs are held and passed through the panel saw upside down in a box-like jig clamped to the sliding table, as shown here. The blade is tilted to produce a compound angle on a curved component with great accuracy. Another jig trims the top of the chair back to the correct angle, once again with the aid of a purpose-built jig clamped to the sliding table, see photo p.35.

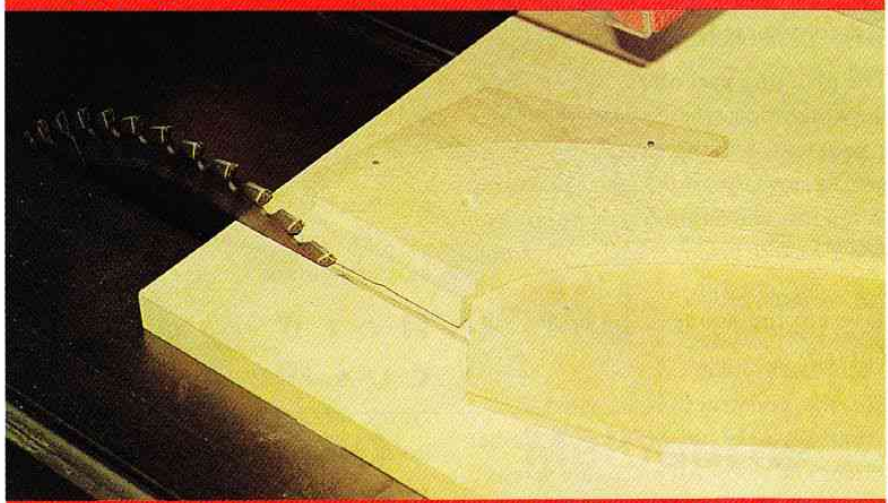


Table Saw Jig: This jig is used to square the ends of curved legs previously shaped with the router. The curved leg is held in place by tightly positioned blocks cut to the shape of the leg. The jig is pushed through the saw against the fence.

attachment to jigs as well as adjustable rubber clamp heads to ensure firm pressure. Manufacturers claim 300-500lbs holding pressure can be applied with hold down clamps—more than enough for most jig operations.

What I Use Jigs For

I use jigs extensively to make chairs, tables and batch production items. Some of my jigs have evolved over time, while others are very simple. One chair I produce uses about 30 different jigs for everything from the cutting of rail angles to the tapering and shaping of legs. Left and right handed chair components require their own jigs. Jigs are also useful for everyday tasks such as tapering legs, cutting angles, drilling adjustable shelf holes and cutting components to length.

Types of Jigs

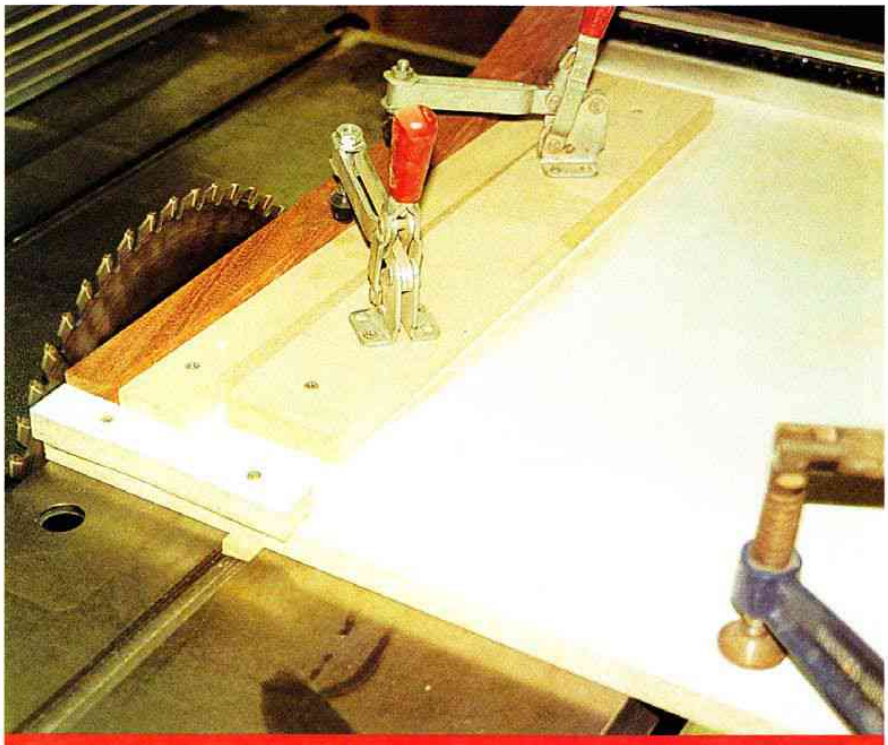
Router Jigs

When used in conjunction with jigs the router can be used for a wide range of operations such as shaping, slotting, cutting circles and radii and rebates. The router can be used with lathe box jigs for fluting and cutting mortises and dovetail slots. Richard Vaughan's story this issue (see p.28) deals specifically with jigs for the router.

Table Saw Jigs

Base boards can be clamped onto the sliding table of your table saw or run in the mitre guide slots. These are used as base and fixture for many jigs, with special angle stops and guides set up for individual uses, such as compound mitres. These boards can be used again and again for an accurate set up every time. I have one base board which I just use for temporary jigs. Stops and guides are easily screwed down and removed again when the job is finished.

Tenon cutting jigs can be made for the table saw and run on special sliding carriages attached to the rip fence. These jigs allow components such as rails for doors, to vertically pass through the saw safely. Once set up, they pro-



Leg tapering jig on the table saw:
Hold down clamps position the leg against a wooden stop set at an angle for the taper. The jig is clamped to the sliding table and accurately located in place by a strip of timber screwed to the underneath which runs in the mitre slot in the table saw top.

vide a very accurate way of quickly cutting the faces of tenons.

Bandsaw Jigs

Circle cutting jigs are available commercially or can be easily made. A board with a short sharp pin facing upwards is secured to the bandsaw table. The pin is set at the required radius from the blade and the timber is pushed onto the pin, then rotated towards the blade. For jobs where your work is to be cut on a curved compound radius or at an unusual angle, a jig may have to be specially devised to support your work. Curved rests can be bandsawn out and used as support guides for your work.

Drill Press Jigs

Jigs will facilitate drilling at angles and the stopping and positioning of drill holes in components. With the aid of jigs, dowel holes can be accurately aligned in components and adjustable shelf holes drilled. I have made a larger MDF table for my drill press which jigs can be easily clamped

to. Some drill press jigs also require the table to be tilted for the drilling of holes at angles and have to be set up individually each time.

Thicknesser Jigs

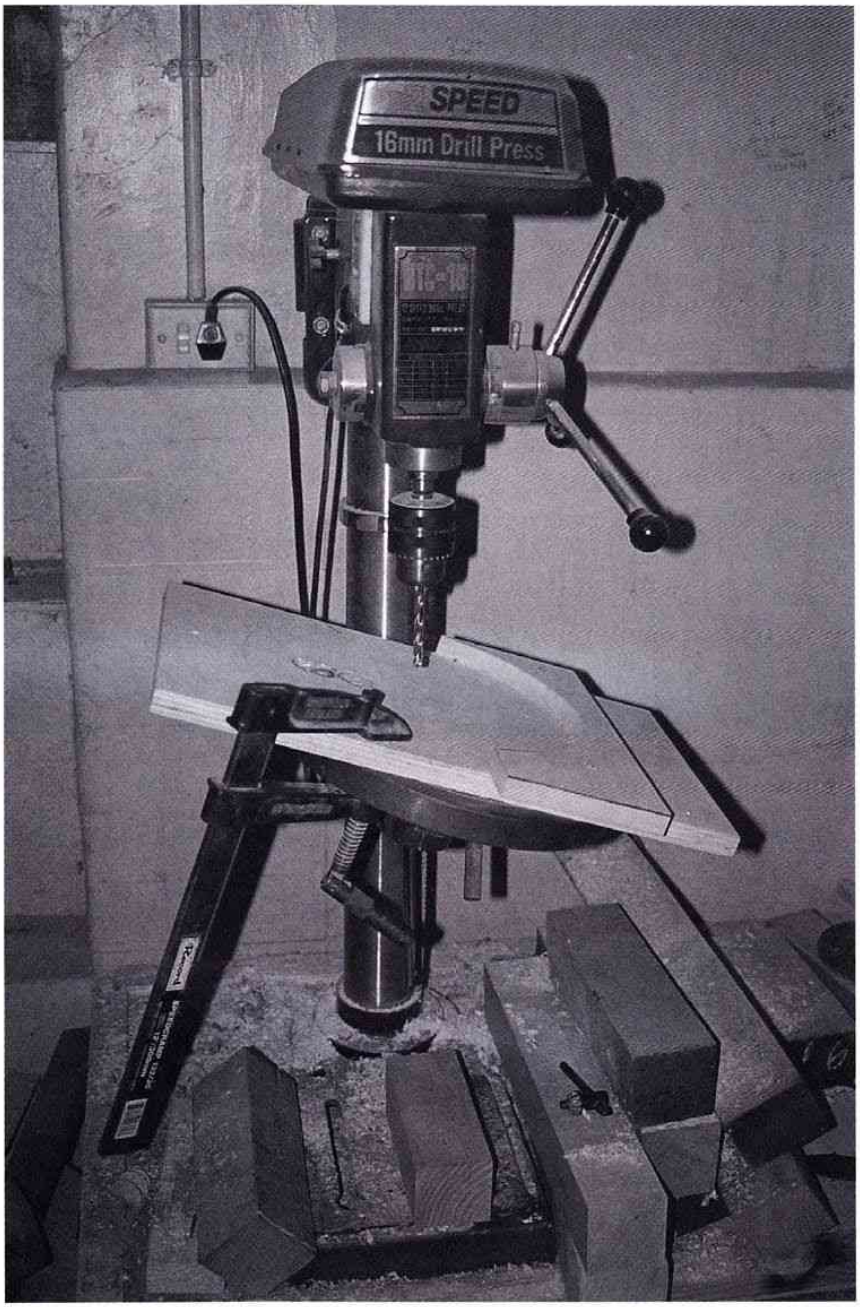
Jigs to feed components through the thicknesser for planing angled faces, such as on triangular shaped legs are easy to make from MDF or better still smooth melamine. Take a number of light passes rather than fewer heavy ones which may overload the machine or cause the jig to move and result in inaccurate work. I wax thicknesser jigs for smoother feeding.

Jigs For Hand Tools

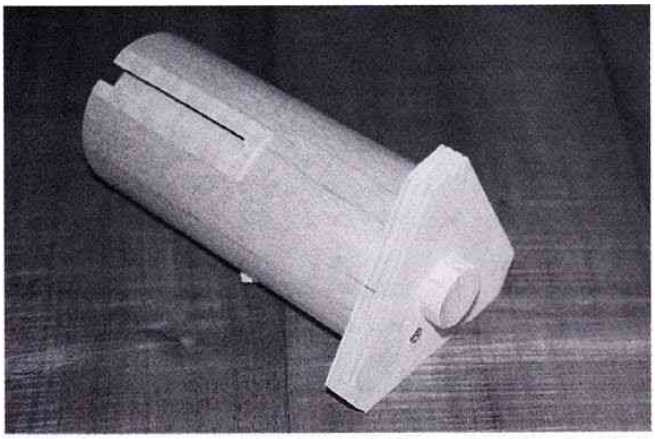
Jigs can give greater accuracy when using hand tools. Simple blocks of wood planed true to 90° and clamped to your work are excellent guides for paring chisels and ensure you cut square. Other devices and jigs which can be used with hand tools are shooting boards, (90° and 45°) mitre boxes and hand-saw guides.

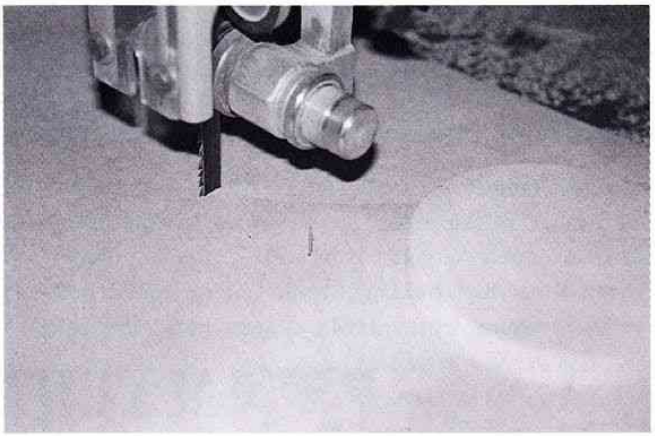
Clamping Jigs

Often special jigs have to be devised for complicated clamping jobs. Gluing curved legs to rails or clamping up irregularly-shaped frames requires purpose-made clamping blocks and fixtures. Shaped clamping blocks and guides can be screwed down to a board to ensure your job is held in the correct position and aligned properly while being clamped. Guide frames for gluing picture frames can be easily made and the use of wedges eliminates the need for clamps.



The jig above is used for aligning circles on the drill press for such tasks as the drilling of holes for legs in round stool tops. The jig ensures the hole is drilled the correct distance from the outside of the circle. The drill press table can also be tilted to splay the legs of a stool.

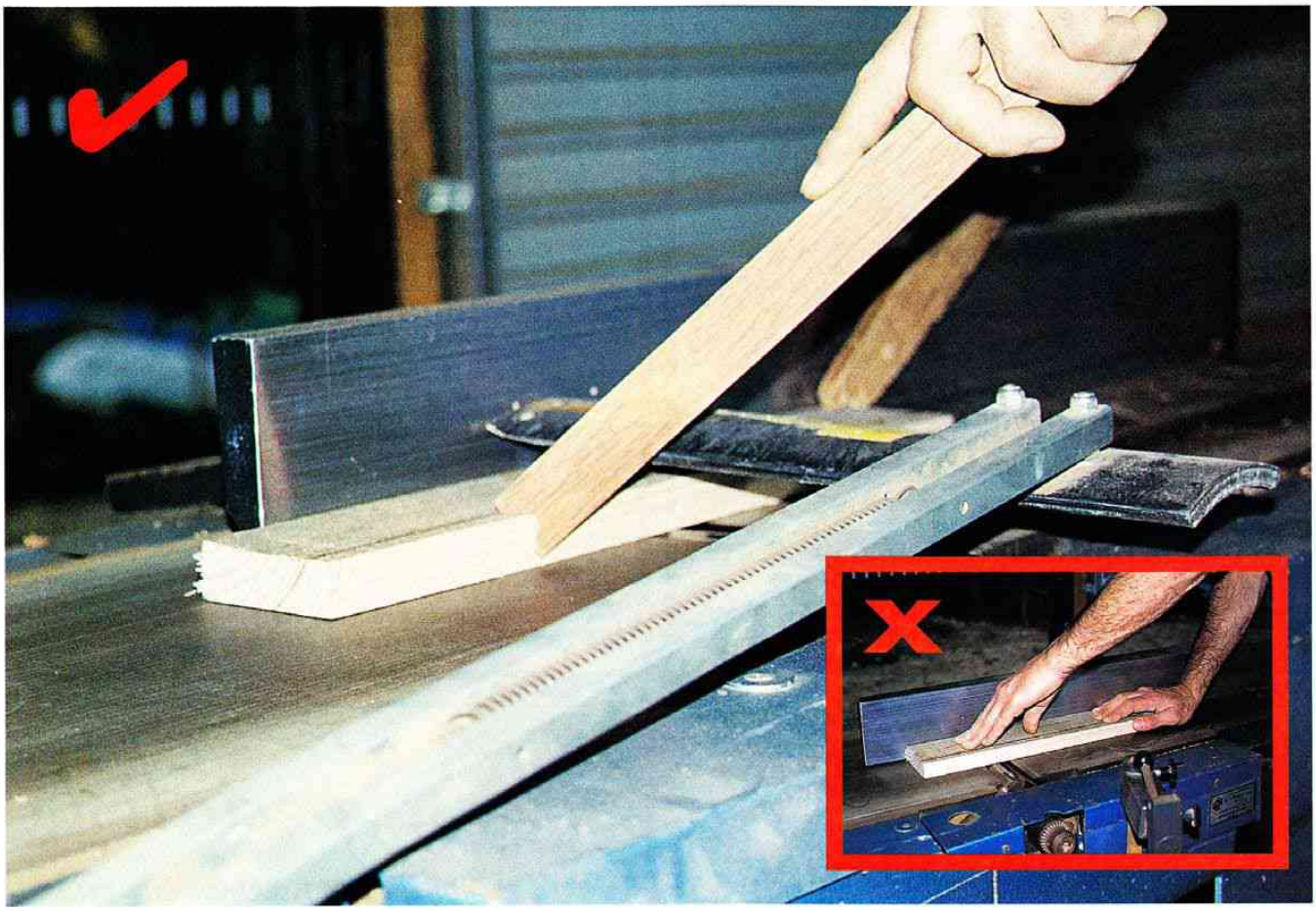




Left: Guides are screwed onto the flat ends of cylindrical components for accurate cutting and spacing. This triangular spacing jig locates slots on a column for a three legged table. Right: A bandsaw jig for cutting circular shapes.

By Philip Ashley

SAFETY IN THE WOODWORKING SHOP



Paying lip service to the notion of safety is a recipe for disaster. Be aware of possible hazards, adhere to safe work practices and be prepared with basic first aid knowledge.

A New Zealand company recently installed a CNC machining centre, and many of the staff were gathered around to watch the machine being demonstrated. During a routing operation, one of the cutter tips came off the router bit and struck the machine salesman in the heart, killing him instantly. This is but one, albeit extreme, example of the type of accident that can happen in the woodworking industry.

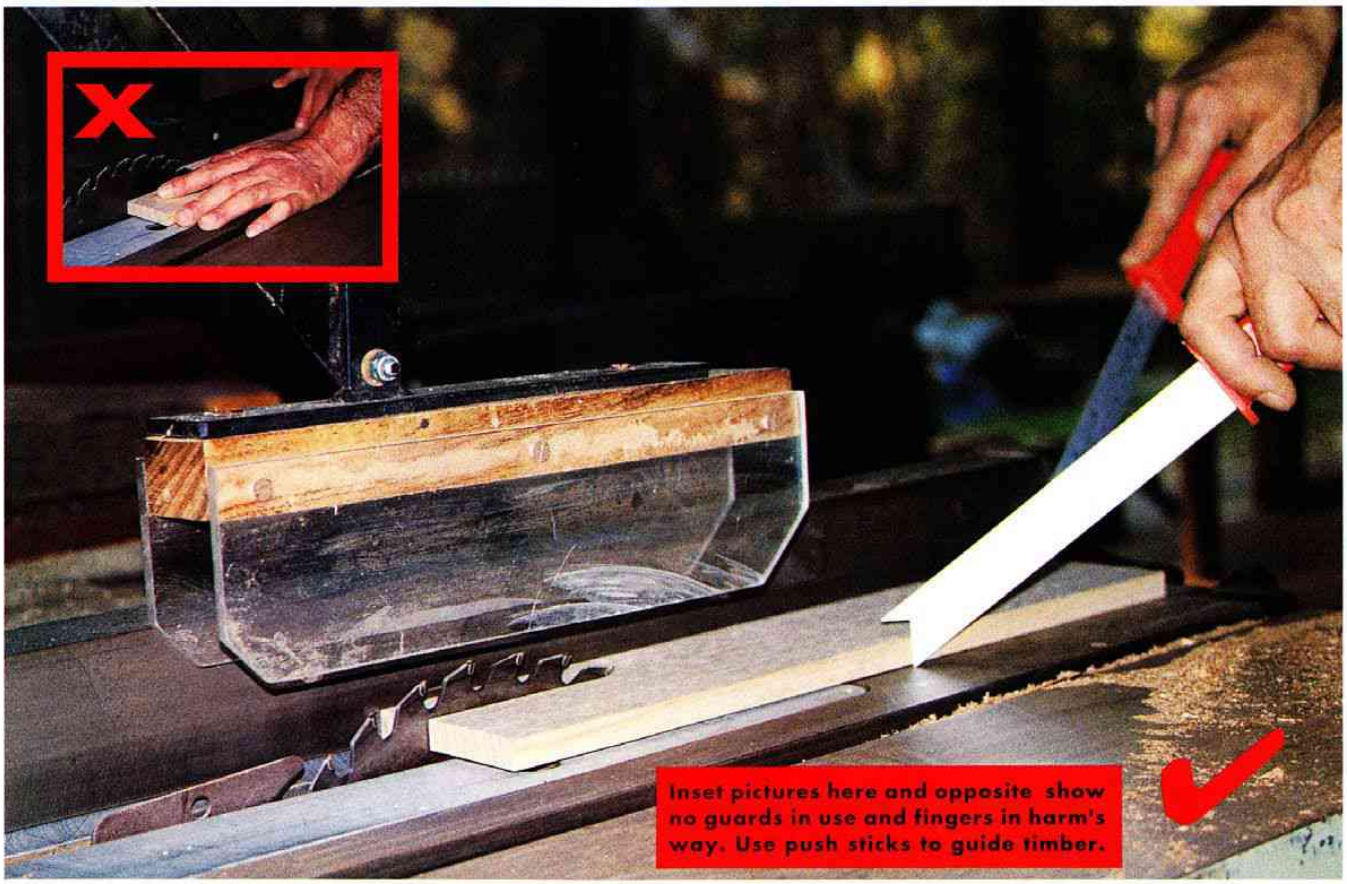
People slip, trip and fall everywhere, and back injuries are common in most workplaces, including offices, but where wood is being worked there are sharp tools and dangerous machines—special care must be taken to avoid disfiguring injuries.

I started my first job in the woodworking industry some twenty odd years ago, and one of the first people I met had only four and a half fingers between both hands. A spindle moulder operator all his life, old Bill was able to retire a few years later with those four and a half fingers still intact. I have still got all my fingers, and although I've had a few cuts along the way, good work practices have saved me where others have not been so fortunate.

The Cost Of Accidents

On a personal level accidents result in much more than time away from work. What if you play a sport, or a musical instrument, and you lose a finger? If you are self-employed your business will be at risk. If you work for a boss the whole company can suffer. A serious accident in the workplace will upset everybody, and productivity will drop markedly.

The financial costs of accidents are very high. An accident at a moulding mill recently cost the company almost



three quarters of a million dollars in fines, new guarding, legal costs and lost productivity. In Australia compensation payments top $550 million per year!

The loss of a key employee at a busy time, poor quality work by replacement staff, the loss of prestige, and an unhappy workforce are all worth considering. Any company has much to gain by being a safer place to work.

Why Accidents Happen

People daydream, forget things, take shortcuts, hurry too much, and are often irresponsible. If we were to eliminate our bad habits we would be less of a safety risk to ourselves and others. Get into the habit of doing things the safe way *now*.

A few years ago I was watching one of my employees remove a heavy steel cutterblock from a moulding machine. I watched him grab the front half of the block and pull it forward along the spindle, but instead of stopping and repositioning his hands to support the weight of the entire tool, he pulled it right off the end before I could open my mouth to warn him. The weight of the cutter was too much to hold and he dropped it onto his left leg, where it slid down past his knee, slicing through his jeans and landing on his foot. His Reeboks were unable to save his big toe and his Levis could not prevent the twenty stitches he needed to his upper leg. The lesson here is slow down, think, and wear the right workwear.

Look To Yourself

Of course, there is always the time when the wood jumped back or part of the cutter came off. Blaming the equipment or other workmates won't help. Taking responsibility and learning from experience is essential to safer work practices.

When you commence work or a shift always do your own safety checks, never assume anything. An apprentice of mine came in to trade school one day to explain why he wouldn't be coming to school for some time. At work he was routing a wine table leg with a jig, when the jig broke and his right hand went into the router cutter. The hand was an awful mess. It was twice the normal size, black and blue, and all the fingers were deformed. He had to virtually pull the fingers from their sockets every morning because they had set during the night. He told me that this experience was worse than the actual accident, and brought tears to his eyes. He also told me that the accident was his fault. He knew the handle on the jig was loose, but used it anyway! Look to yourself.

PLEASE NOTE:

This article does not claim to be a comprehensive guide to safety for the woodworker or a guide to first aid. It is intended to highlight some areas of concern for woodworkers. Every workshop or factory should have its own safety procedures and first aid drill and equipment.

Machinery as a Hazard

As an example of the dangers of machinery, consider that in Australia over 60% of all work-related fatalities are caused by equipment, now known in safety circles as plant. Analysis of accidents with woodworking machinery shows that, predictably, most accidents occur whilst actually cutting wood, and almost all injuries on machinery are to the hands. The remaining percentages are taken up with other causes such as removing waste, cleaning, and wood being thrown back at the operator.

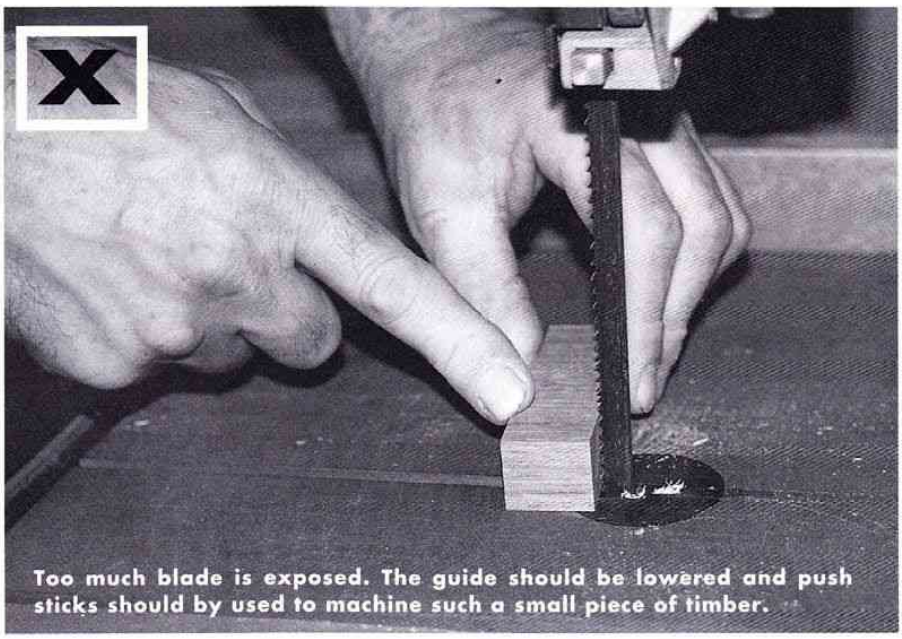
On the surface planer 88% of accidents happen whilst actually cutting the wood. On the bandsaw and crosscut saws the figure is 50%, the spindle moulder 45% and the ripsaw 30%. Surprisingly, cleaning and adjusting machinery accounts for quite a few accidents. On the ripsaw the figure is 25%, and on the bandsaw 33%. Spindle moulders and crosscut saws fare better at about 10% each.

Some machinery is particularly dangerous. If you use loose cutters in slotted collars, think of those cutters as bullets. They are about ten times as big as a .303 and travel at about the same speed. I have seen the results of a cutter coming loose from the spindle and lifting the guard clean off the table of the machine!

What about the ripsaw? On one occasion the riving knife came loose, vibrated into the sawblade, and was then ejected right through the top of the guard, embedding itself into the ceiling!

General Hazards

Untidy workplaces, poorly maintained floors and equipment, bad lighting and unsafe work practices are everywhere. You must be alert at all times. A high percentage of accidents happen on Friday afternoons, or before a holiday when workers are possibly thinking of something else.



Too much blade is exposed. The guide should be lowered and push sticks should by used to machine such a small piece of timber.

Housekeeping

Good housekeeping in the workplace is essential. Not only will it help to prevent accidents, but will increase productivity. All machinery should be kept clean and in good order, stock should be stacked on pallets or trolleys, floors must be kept clean and 'slip-proof', waste should be disposed of properly and fire exits clearly marked.

Safety Rules

A comprehensive list of personal and machine safety rules would not fit into this magazine, but generally, the following rules apply. Discussion of and drills for safety in your factory or workplace may prevent or minimise accidents.

- Use all guards, and enclose tooling as far as possible.
- On machinery, use mechanical feeding whenever possible.
- Ensure there is adequate lighting.
- Enforce the use of protective clothing and footwear.
- Ensure that operators are well trained.
- Make sure all machinery is switched off and the plug removed from the wall outlet during adjustment.
- Take extra care during repetitive operations and just before quitting time or holidays.
- Use the correct tool for the job. Many accidents happen when the loose spanner slips, or the poorly maintained screwdriver comes off the screw and puts a hole in the back of your hand.

Regulations

Fortunately, regulations in every state are gradually becoming uniform. The latest effort is the *safe plant* package. The basis of these regulations is that you do a risk analysis on each process or piece of equipment, and then you set in place provisions to deal with those risks. Machinery and workplace guarding recommendations can be found in Australian Standards 1473-1991, and you can adopt these regulations as your plant regulations if you wish, or you can go beyond this and create your own set of company regulations and guarding requirements. An interesting point is that at present you are able to wear earmuffs to guard against noise, but in the next few years legislation will be introduced permitting only engineered control of noise.

A Final Warning

By the way, don't forget your safety habits at home. My greatest embarrassment was that after a day in the College teaching other people how to work safely, I went home and sliced my hand on a stanley knife, and it was entirely my fault. Nobody's perfect, but in this game you have to try awfully hard, all of the time.

By Dinah Hall

WOOD SAFETY: WHAT CAN HAPPEN

A random sample of amputation statistics drawn from Worker's Compensation claims in one state indicates the horrible consequences of power tools in the workplace. Three hands, 16 thumbs and 20 fingers were removed from worker's bodies in the financial year 1993/94. While circular saws removed the three hands, they also sliced off eight of the 20 fingers, while other power saws took off nine of the 16 thumbs. Of the total 39 amputations claimed for under Worker's Compensation, 20 occurred in timber related industries. These figures may seem low but they represent one year, one state's sample and only those covered by worker's compensation—not the self employed operator, contractor or hobbyist. The loss of a hand, a finger or a thumb is a major loss to the individual and those around that person.

Replantation microsurgery, practised

First Aid Kits

A basic first aid kit containing bandages, dressings, slings, scissors and safety pins can be assembled for around $35. A first aid kit should be placed strategically in the workshop and should contain:

scissors
tweezers
antiseptic powder and cream
5 x non-adherent dressings (5cm x 5cm)
roll of tape
cotton buds
3 packs of gauze swabs
dressing strip (6cm x 1m)
2 gauze or crepe bandage rolls (small and large)
triangular bandage/sling
2 wound dressing pads

You may improvise with any domestic item. For instance, a small clean towel may serve as a pad for applying pressure to a wound, bandages can be produced from any clean strips of material as can slings. Non-stick dressings should be supported with a firm but not too tight bandage.

Remember 3 important points to stop bleeding:

1. Pressure by dressing
2. 43Elevation above heart
3. Keep injured part still (use a splint if available).

since the mid-1970s, though successful in most cases, will never restore a digit or hand to normal. In some cases doctors advise against reattachment of a single finger tip as a stump may be more mobile than a stiff replant. Damage to nerves and tendons may require further surgery to remove scar tissue which causes stiffness.

Yet, while amputation may be considered the worst thing to happen in the workshop, the damage to nerves from a small cut from a hand tool and the resulting scar tissue can also be debilitating. Injuries range from a laceration that requires stitching, a deep laceration through to tendons, nerves and the bone, and severe wounds through to the other side of the finger.

National Statistics

There are no absolute figures available on injuries sustained in the woodworking industry. However, the National Injury Surveillance Unit, an Adelaide-based study group collating statistics of 50 nationally participating hospitals has produced a short report on incidents associated with power tools.

During the period of July 1991 to June 1992, 1090 incidents were reported at the various hospital emergency sections which were associated with electric power tools. A further 145 incidents associated with saws were reported, however they weren't included in the trend study as it was not clear if they were electric or hand held saw injuries.

Of the 1090 cases studied, most (439) involved a grinder/welder; 260 (drill); 208 (power saw); 85 (nail gun); 53 (sander); 21 (router); 18 (planer) and 6 (other tool). Most on the job injuries were sustained by carpenters and joiners (109 cases). Safety devices were recorded as being in use at the time of the incident.

The eye (491 cases) followed by fingers (326 cases) are the most commonly injured body regions. The saw was the most common tool culprit in 123 of these cases, followed by the drill (81) and nail gun (38). Lacerations were most commonly associated with saws (129) and drills (81 cases).

The ability of the body to recover from such trauma is limited. Physical trauma may be compounded by emotional trauma and a consequent loss of interest in woodworking as a form of income or pleasure. Prevention always remains better than cure.

First Aid

Virtually all injuries are preventable with a considered approach. In the event that an accident does happen, a knowledge of basic first aid may save a limb, eyesight, fingers or even a life. This article is not a definitive medical guide. The following information may be helpful with regard to the management of hand injuries. A course in first aid is recommended. A plan of action in the event of accidents is also recommended for both management and staff. Information about nearby medical assistance should be located in a visible position by the phone.

Injuries are more common when the operator is tired—don't continue using power tools of machinery at the end of a long hard day. Another common cause is a distraction such as a visitor or a child. Even an unexpected movement can cause the worker to take his attention away from the tool, so keep pets out of the workshop when using machinery.

Severing a Digit or a Hand

A split second's distraction is all it takes to remove a precious finger or a hand. The secretary of the Hand Tool Preservation Society, and plastic surgeon by trade, Frank Ham won't touch power tools for this reason. 'As a surgeon I'm more interested in hand tools because they don't remove fingers in a tenth of a second. In my line of work I see what they (power tools) can do.'

If a finger, (or thumb or hand) is severed:

1 Find the finger and place it in a clean plastic bag.

2 Place the plastic bag, not the finger, in iced water.

3 Stem the flow of blood at the point of amputation and seek medical assistance immediately. Keep a list of plastic hand surgeons near the phone and know how to get to the nearest hospital that can perform microsurgery.

External Bleeding

In the event of serious bleeding the most important thing is to stem the flow of blood:

1 Apply firm pressure to the wound.

2 If possible, lie down and raise the limb and rest it. For example, lie on the couch and lift the arm onto the back of the couch while maintaining pressure on the wound.

3 If there is anyone else around get them to call for medical aid urgently.

4 As soon as possible place a clean dressing over the wound and firmly bandage. If this does not stem the flow, relocate the pad—not the dressing, and re-bandage. Don't disturb the bandages as this may cause bleeding to begin again.

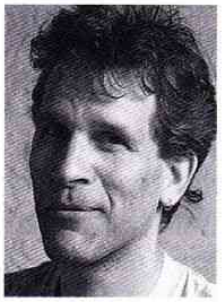
5 In the case of uncontrolled bleeding, such as the amputation of a hand, pressure should be applied to the point midway between the elbow and shoulder. Once this has controlled the flow, remove pressure from this point and reapply pressure to the wound. Follow steps 1-4.

6 Be aware that you may be suffering from shock. Shock can be life threatening as it is a progressive condition that can lead to the collapse of the circulatory system and death. Seek the help of another person immediately.

If you are caring for an injured person, lie the person down and stop the bleeding. Once the wound has been treated it is most important to ensure the casualty is comfortable, kept warm without overheating, lips are moistened but don't give anything to drink or eat as surgery and an anaesthetic may be required. If the casualty is badly injured, monitor and record their breathing at regular intervals and maintain a clear open airway with the patient lying on their side while you wait for medical treatment to arrive.

Special thanks to Frank Ham for assistance with this article.

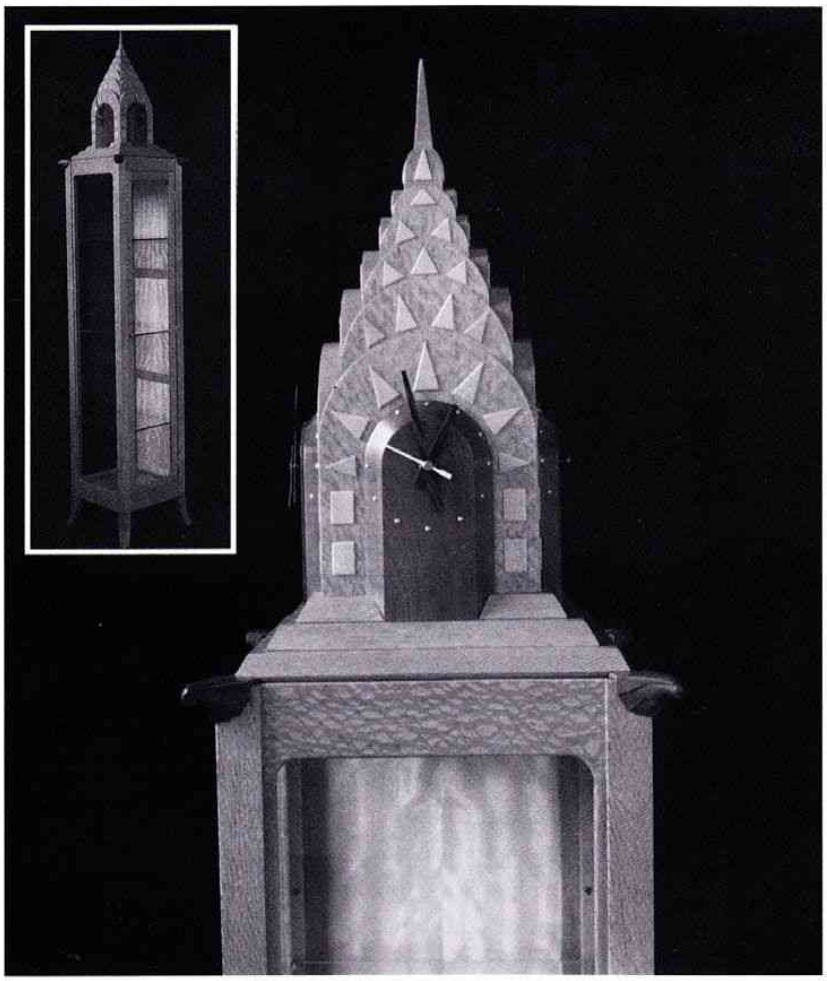
By Leo Sadlek



LEO SADLEK: ARCHITECTURAL TIMEPIECES

From his workshop in Neerim South, Victoria, Leo Sadlek makes commissioned furniture and production items. The real 'essence of woodworking' for him though, is making speculative pieces which allow him to exercise his 'creative muscle' He is currently working on a series of 'Clock Towers' that combine an interest in architecture with the making of timepieces. He talks about his background and what inspires him.

Recent history is full of examples of architects who also design furniture. Most woodworkers are familiar with the names, if not the work of Charles Rennie Mackintosh, Frank Lloyd Wright, Eliel Saarinen, Charles and Henry Greene and Michael Graves. Less common are furniture makers who design architecture. A lot of time, money and effort is involved in training to be an architect—a pretty big career change in other words. I haven't made that leap. But I still have a huge interest in architecture and find myself craning my neck and looking like a country bumpkin when I'm in a city.



Clock Tower I (after the Chrystler building, New York) 1994 1.9m high, silky oak, quilted beech, copaiba, beech, glass. Photo: Janice Hunter.

I was once walking the streets of Manhattan on a clear summer's evening, when I looked up and caught a glimpse of the Chrystler Building. At dusk the only illuminated windows are the triangular ones in the nickel-chrome plated steel spire. For me it was an inspirational sight. I slipped past the lobby guards of an adjacent building, rode the elevator up to the 40th floor and asked the dentist there if I could use his window for a while. This building, designed by William Van Alen in 1930, is my favourite Art Deco architectural work.

Years later I used this experience as a starting point for *Clock Tower I*, a display cabinet of silky oak, copaiba and inlaid beech. I used silky oak as the main timber because I thought that the ray flecks in the quartersawn surfaces have the same luminescent feel as the glowing crown of windows on the original building. The copaiba used in one of the curved layers of the spire and also in the pin-stripe detail on the cabinet, gave a much needed contrast to the silky oak. It was a pleasure to carve the gargoyles and in fact the whole project was so enjoyable that I decided to work on a series of similar pieces.

Clock Tower II (after the McGraw-Hill building, Manhattan) was in the drawing stage for a couple of years until I discovered some fiddleback blackwood veneer. Raymond Hood's McGraw-Hill building, built in 1931, has horizontal lines dominating its overall

appearance and the strong figure in the veneer works well with this concept. The inlaid blackwood strips and pulls on the doors were inspired by the heavily ornamental lobbies and elevator doors in buildings of this era.

Some other notable buildings that I have in sketch stage include the Empire State Building and the Eastern Columbia Building in Los Angeles. The latter is completely covered in blue-green terracotta tiles which should prove an interesting design challenge. I'm currently photographing and studying Art Deco buildings in the centre of Melbourne and Sydney for some Australian *Clock Towers*.

I trained as an industrial arts teacher at Miami University (not in Florida) in Oxford (not in England). I sampled a whole range of subjects but gravitated towards woodwork. After graduating in 1975, my first teaching job, (and first plane flight I might add) brought me to Brisbane. I was 22 years old and the 18 month contract seemed like a mighty long time. Over the next ten years in Australia I began to realise that I wanted to create things myself rather than teach.

In 1985 I quit teaching and moved to Boston in the USA. My idea was to soak up some of the rich furniture heritage that the New England area has. My employer there was a man named Gneal Widett who makes the most amazing sculptural handcarved wooden signs. In the three years I spent with him we received commissions for everything from bar tops to cedar chests, from reproduction Frank Lloyd Wright chairs to floor to ceiling mahogany libraries.

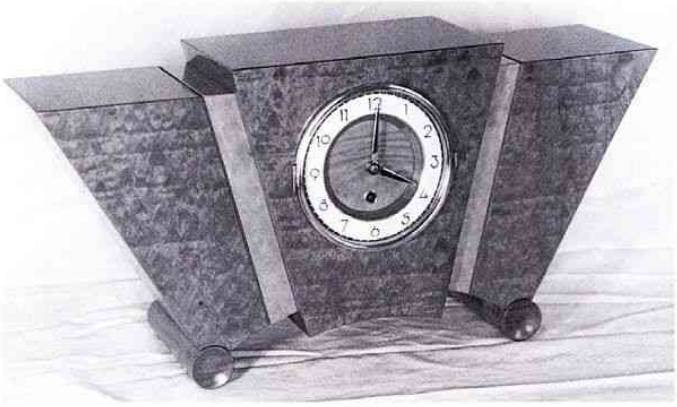
In 1988 I went out on my own and began to develop my own designs. I studied the Shaker, Deco and Arts and Crafts schools, along with the more recent works of the Memphis designers. With the addition of Modern Classicism, these are my current influences.

In 1990 I moved back to Australia, to Victoria where I set about building a career in woodwork. I decided to make a range of small shelf clocks as a production item. I do not have a great passion for clocks, but since most people have two or three clocks in their home I thought it was a safe item to start with.

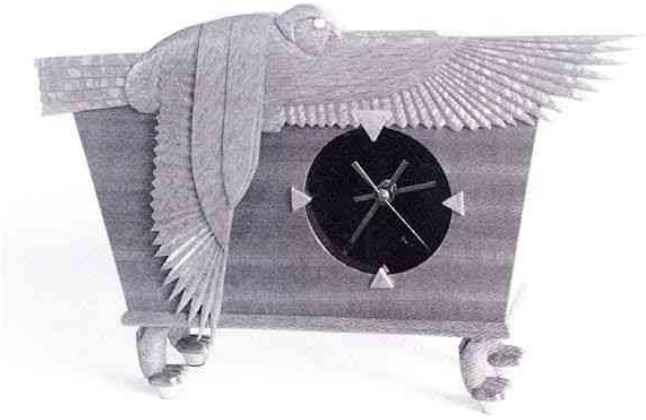
I have been making clocks for six years now. There were three shapes in the original batch which wholesaled between $60-80. Two more shapes were added later on. To make the product as fresh as possible I use different veneers in each batch. I use Australian and world timber veneers, though it seems that there is a slightly bigger demand for the former (many make their way overseas as gift items).

Initially I used kiln dried meranti as a substrate for the veneer. I soon began to have problems with delamination if a clock sat too long in the heat of the sun. Using MDF as a substrate solved the delamination problems and allowed me to make a few production short cuts.

Some time later The Old Bakery Gallery in Sydney asked



Key Stone Clock **1995 250mm high, pomelle makore, madrone burl, red gum, purple heart, vintage movement and dial.**



Horus of Edfu **1992 260mm high, sapele, silky oak, 23 carat gold leaf.**

Canopic Clock **1992, 370mm high, pomelle makore, fiddleback maple, black lacquer, 23 carat gold leaf, purple heart, ebony. Photos above: Leo Sadlek**

Photos page 48, 49: The Visual Resource

Tall Boy, 1996. 1.5 metres high, avodire veneer, damar minyak and stainless steel.

Clock Tower II (after the McGraw-Hill Building), 1996. 2 metres high, blackwood and stainless steel.

me to produce some clocks for an exhibition. I thought the clocks for this should have the feel of the very fine shelf and bracket clocks from the 18th and 19th centuries. I studied Art Deco and also a variety of other influences for inspiration (including Ancient Egyptian art and the modern painter Vassily Kandinsky). I then sat down with paper and pencil and came up with 12 clock designs. The clocks all have inlays, backs to conceal the mechanisms, brass hardware and brass plaques which are signed, dated and numbered as part of a limited edition of 25 each.

Before I began the Clock Tower series I had fun producing some other clocks that were larger still and contained a great deal of detail. Inspired by the Canopic Shrines of ancient Egyptian culture I built *Canopic Clock* to house a precision German wind-up movement. Another Egyptian inspired clock grew out of the symbol in their writing representing Horus of Edfu, a stylised falcon. For my *Horus* I carved a falcon out of silky oak and used this as the main feature. In a mixing of pure architectural detail and Art Deco I designed the *Key Stone Clock* which has a vintage movement, dial and bezel from a 1930s Deco clock.

Most recently I have designed a production clock called the *Tall Boy*. The 1500mm torsion box on legs features highly figured timber veneer. A square stainless steel face with engraved numerals is mimicked by stainless steel 'leg irons'. Its 'blocky' look is inspired by the building construction technique whereby 'skins' of marble or sandstone are placed over a metal superstructure. I always marvel at how the effect is of something so solid that you have to remind yourself that it's really only a veneer of stone.

I don't believe that my work includes any technical trickery. Once I've gone

Open detail of Clock Tower II.

Grandfather Clock Cabinet 1996 1.8m high, American cherry and anodised aluminium.

through sketches, detailed drawings and full size drawings I have worked out most of the problems and strategies. There are always, however, decisions to be made in progress and I consider this a part of the way I work. The beauty of woods sliced for veneer makes it well worth the effort of learning how to match, join and lay them. I have an assortment of different sized presses and jigs at my disposal now. The repetition of tightening screw clamps is the only big downside, but soon I hope to add a vacuum press to my stable of equipment.

Most clocks I make are run by a quartz movement and are obtainable through various outlets throughout Australia. The ones I am using at the moment are manufactured by the makers of Seiko timepieces and I find these very reliable. As I said before, I'm not a clock enthusiast. The workings of a precision wind-up or pendulum clock baffle me and quite often I find them too fiddly: if a dog hair gets in one or the clock doesn't sit completely level then problems arise.

The clock faces I design are usually simple. I go to the professional engraver with a drawing of the layout of the face and a general feeling for what the character of the numerals should be. The next step is to choose a font from the hundreds available. Engraving, especially on stainless steel, is expensive. However, considering the clean crisp numerals produced by computer operated machines, the results are well worth it. The making of timepieces has allowed me to make a living while exploring ideas that I have spent a long time developing. After some years most makers tend to develop their trademark forms. In my own case these have derived from my twin interests in architecture and other design schools or styles.

HUON PINE:
TASMANIA'S GREEN GOLD

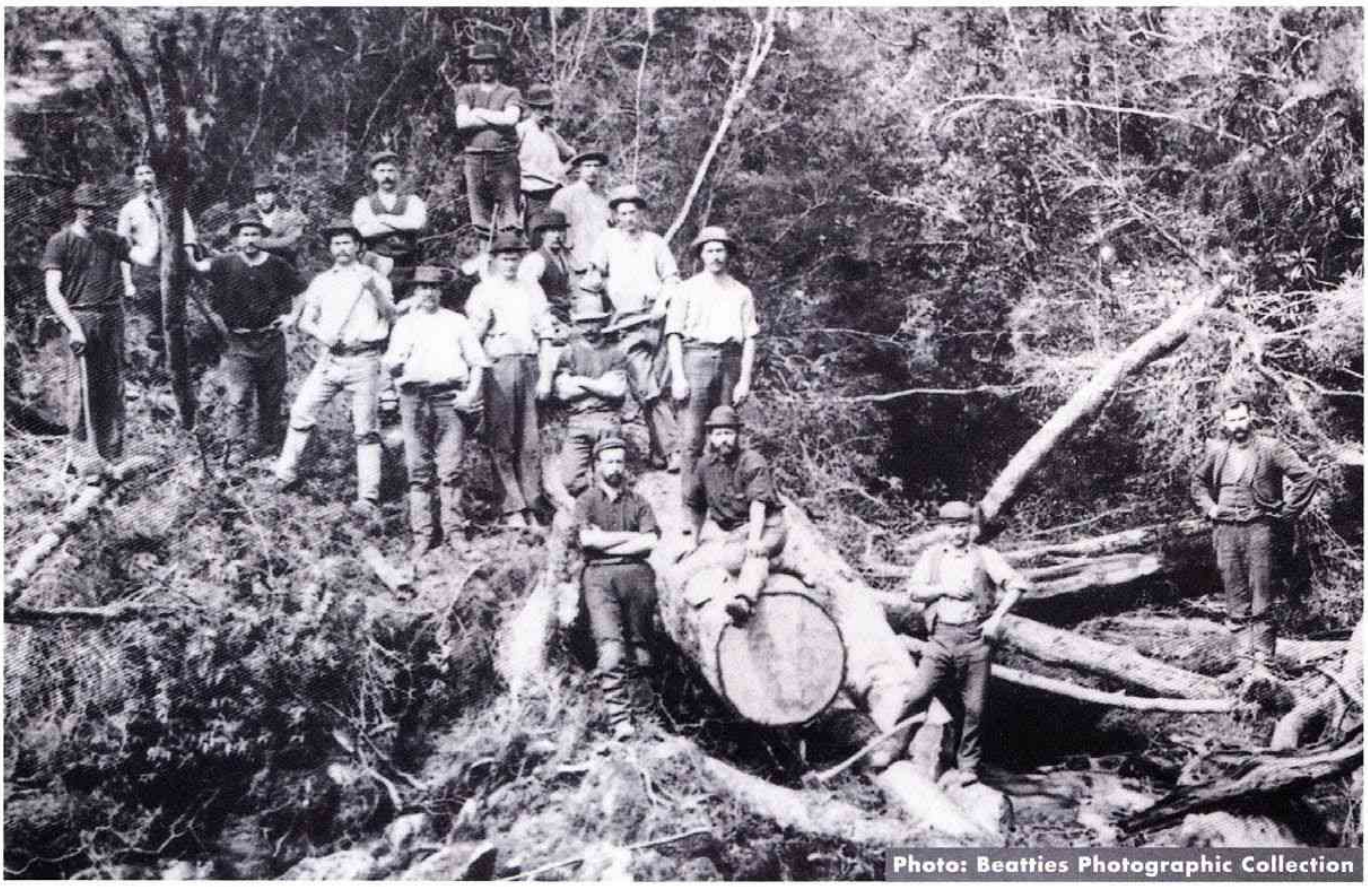


Photo: Beatties Photographic Collection

FROM ANCIENT TIMES

Huon pine (*Lagarostrobos franklinii*) is one of Australia's most precious timbers. The timber is fragrant, golden, highly resinous and therefore long-lasting, and works and carves 'like butter'. A high oil content (up to 7%) makes the timber highly resistant to rot and, when coupled with its lightness and workability, make it one of the world's finest shipbuilding timbers. It is also highly prized for furniture, joinery, turning and carving. The fact that it is one of the longest-living organisms on earth make it even more highly valued.

The trees are slow-growing and have been dated to thousands of years. Although related to species in Chile, Malaysia and New Zealand, Huon pine is endemic to Tasmania and is found growing only in rainforest and along river banks in south-west Tasmania. It grows alongside other rainforest species such as myrtle, leatherwood, sassafras, celery-top pine and blackwood.

The appearance of the tree varies somewhat due to its primary method of regeneration which is vegetative (sprouting from fallen branches) rather than by seed, which does occur though less commonly. Individual trees can grow to heights of 20 to 30 metres or more. Near river banks the overhanging trunks and branches appear 'scruffier' and lichen-coated. The foliage is feathery and resembles that of cypress.

The first harvesting of this timber was largely from salvaging operations such as those on Sarah Island, however 'pining' became a boom industry, which Strahan on the west coast of Tasmania, stood at the centre of. In the 1970s most of the Huon pine available came from hydro-electric water storage areas on the west coast. During the next decade most stands of Huon pine were safeguarded in World Heritage areas.

Strahan is still the centre of Huon pine milling and shipping operations and nowadays the timber is salvaged from the Teepookana Plateau. This area, which is about 10km east of Strahan, was logged from the late 1800s until 1987. Salvaged stumps and branches from the forest floor in that area now represent a valuable supply which should, at present rates of purchase, last for around another hundred years.

As part of Tasmania's extraordinarily long-range State Forest Management Plan disturbed land on the Teepookana Plateau is being rehabilitated and replanted with Huon pine seedlings which will take at least 500 years to mature.

By Penny Hunter

Huon Pine: History of Discovery

Huon pine has been an object of fascination since the first years of European settlement in Tasmania. Its qualities of durability, softness and beauty make it the most desirable of Tasmanian timbers and it is often referred to as 'green gold'.

The name Huon pine derives from where it was first found as driftwood, in the Huon River. In the early 1800s conjecture soon rose as to where the main forests of this species might lie. The settlement of the penal colony Sarah Island on the rugged west coast, where logs were being washed ashore by huge swells, provided some answers.

It was Tasmania's famous hunting, shooting and fishing parson, the Reverend Robert Knopwood, on a visit to the Huon River area in 1804, who apparently first appreciated its potential. He brought a sample back to Hobart for his compatriot and good friend Lieutenant Governor David Collins to observe.

It has also been said that a character by the name of Dennis McCarty discovered the rich Huon pine stands of Port Davey in 1815, but his vessel *Geordy* was wrecked and he suffered delays in getting a replacement craft. Such misadventure delayed his plan to seek formal clearance from the Government to consolidate his find and commence harvesting.

In that intervening period, an ex-naval surgeon turned Hobart entrepreneur, Dr Thomas Birch, with better connections to government, beat McCarty to securing the first West Coast Huon pine logging monopoly. The monopoly lasted one year, commencing in July 1816.

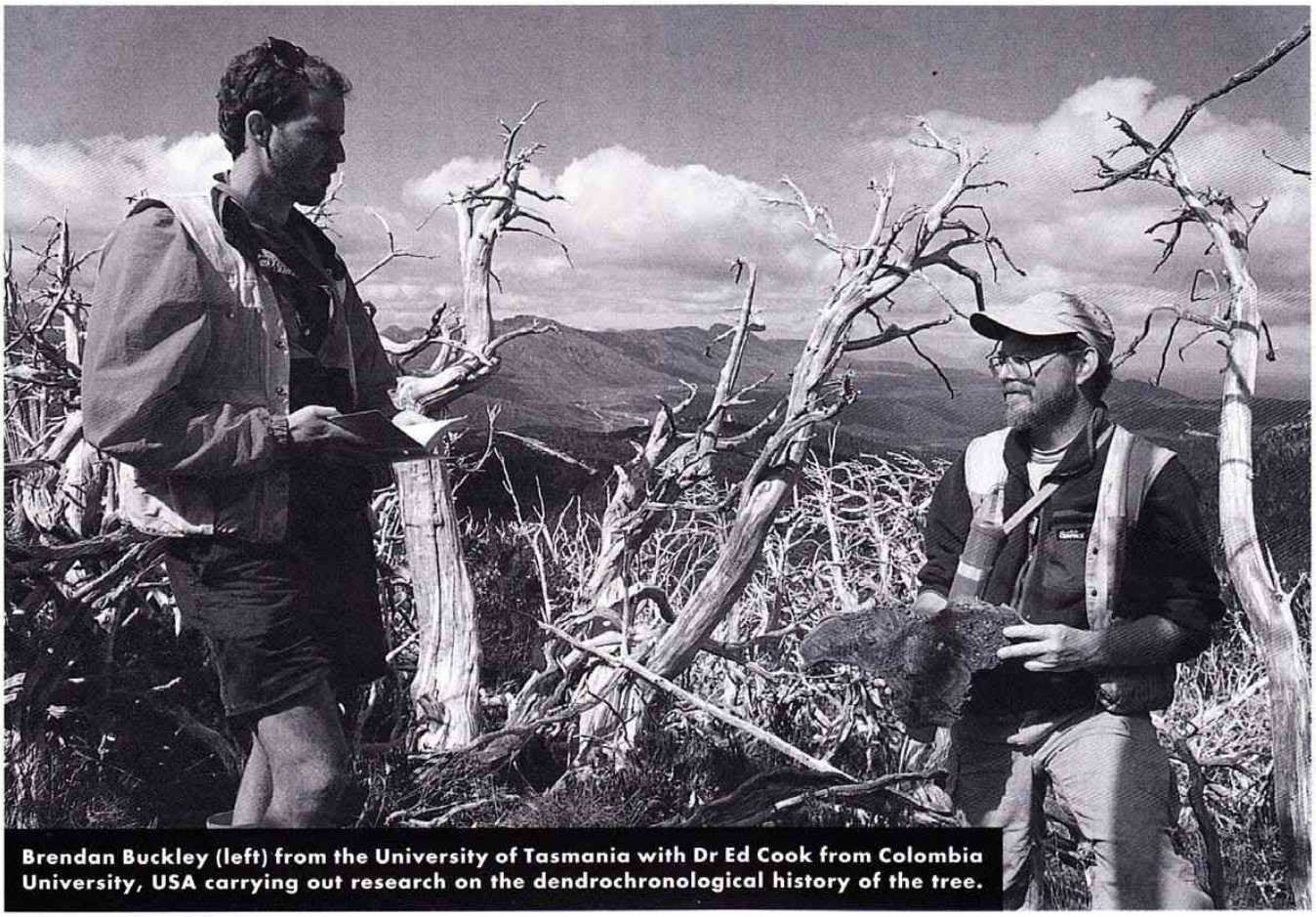
One of Birch's employees, Captain James Kelly circumnavigated Tasmania in an open whaleboat, where he discovered and named the aforementioned Sarah Island, after his employer's wife. Sarah Island was to become one of the harshest penal settlements in the country.

The monopoly became a short lived arrangement because Governor William Sorell, the next Lieutenant Governor of Tasmania, had other ideas about who should be harvesting Huon pine on the remote west coast and in particular Macquarie Harbour. He saw a dual profit for the government in establishing a penal station on Sarah Island in Macquarie Harbour for the most troublesome of convicts, the second offenders more loosely termed 'incorrigibles'.

The new penal settlement served to remove trouble-shooters from the main streets of the expanding European settlements which were now starting to fill with English immigrants. It also cleared the way for convicts to harvest the Huon pine, and thus ensure the government would more directly profit from the outstanding timber.

It has been estimated that during the period from 1822 to 1833, convicts from Sarah Island handled in the order of 30,000 Huon pine logs and many fine boats were constructed there. Boats were built on the island during this time, the most famous being the *Cyprus* which was hijacked by convicts in 1829, and the last boat to be built there the *Frederick* in 1833 which was also taken by convicts on her maiden voyage. Upon completion of the last vessel in the yard the island was left alone for a time, apart from the casual visits of the occasional swan hunter or local piner.

In 1844 however, in the depths of one of the worst recessions that Tasmania has ever known, Commandant Champ JP, the acting controller general of convicts (and later to be the first premier of Tasmania), came up with what he thought was a brilliant idea. His proposition was that the government



Brendan Buckley (left) from the University of Tasmania with Dr Ed Cook from Colombia University, USA carrying out research on the dendrochronological history of the tree.

could make a profit by reopening Sarah Island to serve as the centre for the collection of Huon pine logs felled and collected by out of work volunteer ticket of leave convicts.

Due to its lack of adequate preparation and planning, the whole venture turned into an unmitigated disaster. A major financial loss was incurred, on top of which it is understood the men involved were never paid for their labour. After the unfortunate venture misfired the colonial government, having had its fingers badly burnt, wisely changed its views on logging operations.

For a number of reasons the convict settlement of Port Arthur was beginning to wind down its productive industry base, so for the balance of the 19th century the government chose to leave wood production to private enterprise. It thereafter saw its role as being the relatively passive one of authorising the taking of wood from Crown land by licensing the loggers who applied to do the job.

With thanks to Tasmanian historian Alexander Graham Evans for his writings on Huon pine.

Mount Read Huon Pine

A stand of Huon pine was discovered last year at Mount Read, near Rosebery, Tasmania, which is estimated to be around 10,500 years old. The stand is in fact a single Huon pine which has spread over an area of a hectare. The age of the organism was determined through analyses of pollen found in sediment cores taken from nearby Lake Johnston.

The land is currently leased by the mining company Pasminco who have no plans to mine in that area and are currently restricting access to scientists only. The company, in conjunction with government representatives, is developing a plan to manage the area which contains other rare rainforest species, including eight of Tasmania's nine native pines.

Well-preserved logs at the Stanley River in west Tasmania have been carbon dated at over 7,000 years. Two of the logs tested were dated at over 34,000 years old. By examining the growth rings of these logs scientists have access to information about weather patterns. This information is vital for those making projections on future global warming patterns.

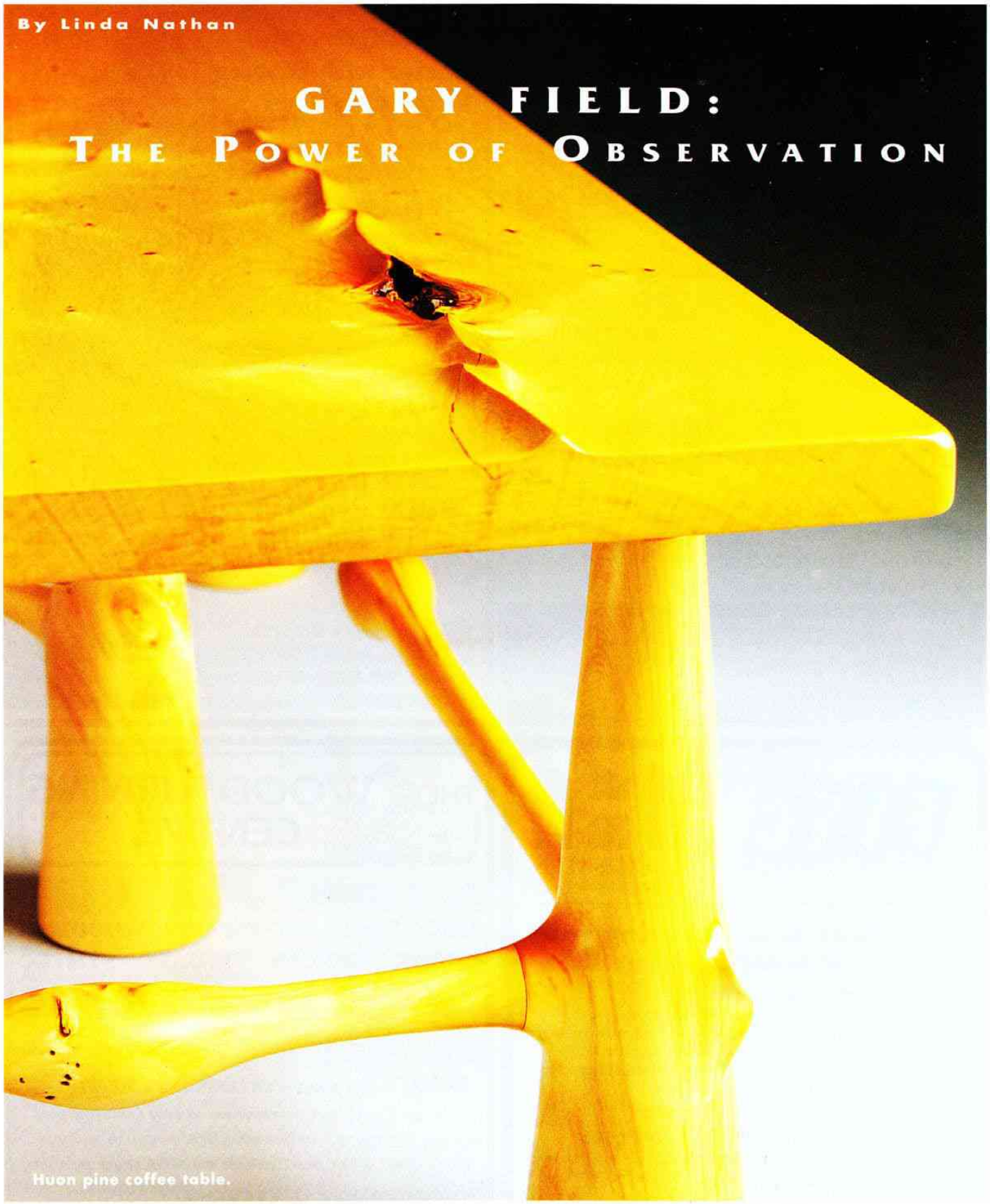
Last year the dilemma of allowing public access to the 'world's oldest living organism' was highlighted by Peter Collenette in the *Hobart Examiner*. Interest in the area comes from mining leaseholders Pasminco, Forestry Tasmania, Parks and Wildlife, Telecom and Renison Goldfields Consolidated, plus tour guides and the local tourist industry who see value in opening up the fragile area to the general public.

Suppliers of Huon pine

Island Specialty Timbers Tas (0364) 393937
Mathews Timber Vic (03) 9874 1666
NSW (02) 9604 2077
Trend Timbers NSW (045) 775 277
Australian Furniture Timbers
Vic (03) 9646 1081, Qld (070) 351 301
Adams Timber, Vic (03) 9761 8688,
ACT (06) 280 6467
Britton Bros Tas (0364) 52 2522
Cockatoo Timbers Tas (0364) 58 1108
Lazarides Timber Agencies (07) 3851 1400
Rare Woods (03) 9427 0570
Morrisons (0364) 71 7235
The Woodage (048) 72 1618

By Linda Nathan

GARY FIELD: THE POWER OF OBSERVATION



Huon pine coffee table.

'Excuse the mess, it's not normally like this', apologised Gary Field, self-described woodcarver/sculptor, as he led the way into what I perceived to be a highly organised set up.

Stack upon stack of timber sections, neatly sticked slabs of milled white beech, red cedar, silver ash, rose mahogany, Huon pine and camphor laurel, the cream of carving timbers in fact, await his careful attention. The small garage-cum-workshop is redolent with hours of concentrated effort.

Gary Field's primary income derives from work as a graphic artist. 'I was trained as a typesetter and compositor but that's a dying art now' says Field in these days of computerised publishing. He runs the art department of a large printing firm where he is responsible for in-house design and production.

For the last ten years though, Field has been experimenting with woodcarving in a serious way, producing on average a piece a month. Not having to rely on his woodwork for income,

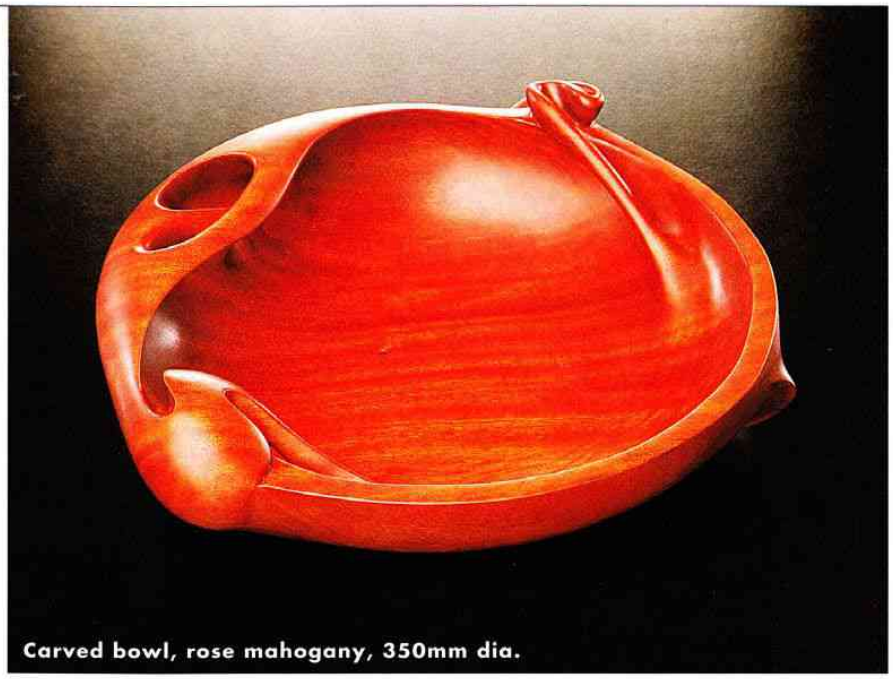
Field has the luxury of being able to spend as much time as he wants on a piece. Of course, for a working man with a family that still amounts to stealing time, but luckily, he says, 'I just can't watch TV or veg out. I have to do something'.

The overriding style of Field's work is organic; shapes inspired by nature, curves which fold and convolute, mimicking a range of natural forms. Most of his work has been small boxes and sculptures, but there have been larger wall sculptures and totemic forms. A steady stream of commissions, along with a never ending number of ideas keeps Field producing, as his business card says, 'individually designed functional forms and sculpture'.

Seemingly casual composition is achieved with scientific, almost clinical precision. Weekly walks and trips to the nearby beach provide material for Field's 'ideas factory' which he proudly displays to the visitor. A collection of plastic ice cream containers hold systematically filed 'r & d' data. In one is a selection of plasticine models for a new piece; another contains several found bird skulls; another has more clay models, this time of tree frogs, while others contain more samples for inspiration and 'research'. 'Some people live their whole life without observing anything' comments Field, who describes himself as a sort of 'bower bird'. A hanging basket above the workbench is filled with seed pods, stones, shells, bones, plant galls, an emu egg, feathers, a coconut stem and other found objects.

After the inspiration follows a phase of extensive sketching and clay modelling. Technique is no problem for Field, who is almost entirely self taught and, as a result, doesn't have any hang-ups about the correct means to an end. 'I think anything that will remove wood quickly is a godsend'. A die-grinder and an Arbortech woodcarver followed up by a selection of keenly sharpened Swiss Pfeil carving chisels will get the smooth results he seeks.

Photo right & opposite: Russell Stokes. Photos above right: Clive Buxton.



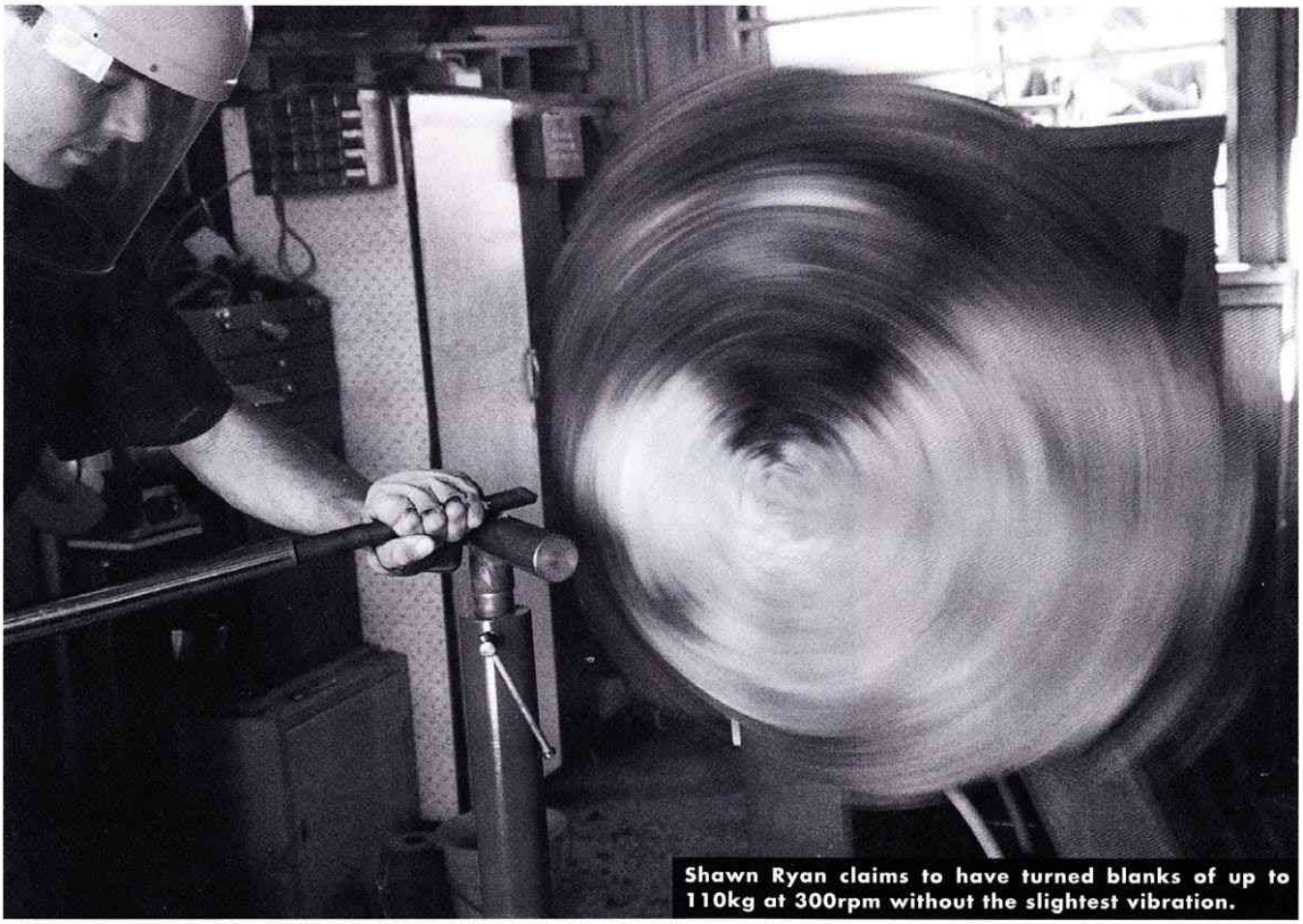
Carved bowl, rose mahogany, 350mm dia.

Wall sculpture, camphor laurel, 820 x 520mm

Huon pine coffee table (detail opposite)

By Terry Martin

BETWEEN CENTRES: SHAWN'S PRIDE AND JOY



Shawn Ryan claims to have turned blanks of up to 110kg at 300rpm without the slightest vibration.

Shawn Ryan is a joiner by trade who reserves his real enthusiasm for woodturning and has already established himself on the local scene as an adventurous turner. He started turning at school, and got his first lathe in 1989. The local TAFE college has an ambitious program of woodturning courses and Shawn was able to train with such well-known turners as Vic Wood, Richard Raffan and Mick O'Donnell.

Shawn is quite ambitious about the size and type of pieces he wants to make and soon found that his lathe wasn't able to perform as he wanted. He decided to make his own lathe and, with the help of friends, has produced a machine that would be the envy of many turners.

Home-made lathes on this scale often consist of little more than a huge block of concrete with large pillow block bearings carrying a heavy shaft. Shawn wanted to design a lathe that looked as good as it worked and the result is a monster of a lathe that fills his workshop, but which has a pleasing air of precision and quality about it.

Weighing in at 3/4 of a tonne and firmly attached to the concrete floor, it doesn't vibrate at all. Shawn says he has turned burls up to 110kgs at 300rpm without the slightest movement from the lathe. He does admit the walls of his shed do vibrate, which means his 200mm-thick slab floor is probably being shaken!

Of course a lathe like this has to be robust in all in its components, not simply a heavy base and headstock. Shawn started building the lathe three years ago. He welded most of the components himself and has been steadily refining it ever since. The A-frame is not completely new, but is a variation on similar designs. A good design point is the wide footprint obtained by raking the far legs out from the centre, while using vertical legs on the turner's side for free access. The six legs are 125 x 75mm section with 6mm thick walls filled with concrete for extra weight and rigidity.

The bed of the lathe is a flat 500 x 500mm steel plate 32mm thick supported by 100 x 25mm solid steel legs. It is slotted for the tool rest to slide around to any position.

The most unusual feature of Shawn's lathe is the headstock. It used to be a 10hp motor, but the windings have been removed and it now works as a

solid cast-iron headstock with a 2" diameter shaft of top grade steel ending in a one inch 10tpi thread. Vicmarc Machinery's variable speed system has been incorporated into the lathe.

The drive was customised for the lathe and, after it was fitted with a larger pulley, has a speed range of 115 to 1600 rpm through a 2hp single-phase motor. The 200mm top pulley is backed by a 24 hole indexing disc.

Safety is an important factor with such a big lathe and this has been taken into account with the switching arrangements. There are four points at which the lathe can be turned off. It has a reversing switch as well, and above the switches is a fully calibrated electronic tachometer. In addition, there is a robust foot switch, wired only to switch off, which allows quick stops when working in front of the spinning work.

To mount the huge work this lathe can hold, a one tonne chain block travels on a girder trolley mounted on a universal beam. Faceplates have been purpose built. One 300mm diameter faceplate is made from 25mm thick mild steel and weighs 13kg. It has a special stainless steel insert which stops the thread from being crushed when large blanks are swung onto the lathe. An interesting innovation is a large hand crank which is inserted in the end of the headstock at the opposite end to the faceplate. This allows the shaft to be rotated to screw the heavily loaded faceplate onto the shaft. It is then removed once the blank is secure.

The tool rest holder is a massive 800mm long and is made from 1" x 4" steel plates welded together. The shaft, which is mounted in brass bushes, is 1" solid steel and the vertical piece which holds the tool rest is bored-out 1 $^{1}/_{2}$" steel. The whole assembly weighs 85kg! It holds an assortment of tool rests with shafts 38mm in diameter. The larger tool rests are up to 750mm long and are made from 50mm diameter solid steel.

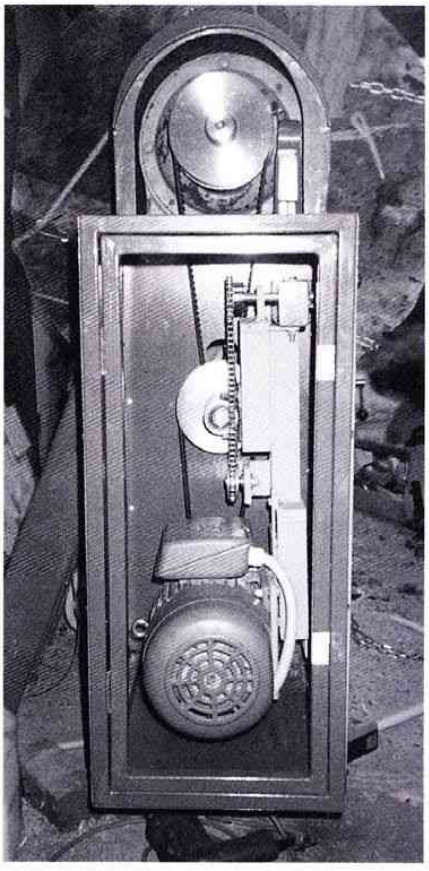
Anyone who has turned large pieces will know that weight is not the most difficult problem to be faced. Overhang multiplies the stresses on the lathe, but this lathe copes well. The photo below shows a 914 x 406mm blank weighing 85kg mounted on the lathe. Shawn will use up to 24 x 3" roofing screws to hold such pieces and has successfully turned pieces weighing up to a quarter of a tonne. It takes three people to mount blanks this size on the lathe—one to line the thread up, one to push the blank on and one to turn the crank to screw it on.

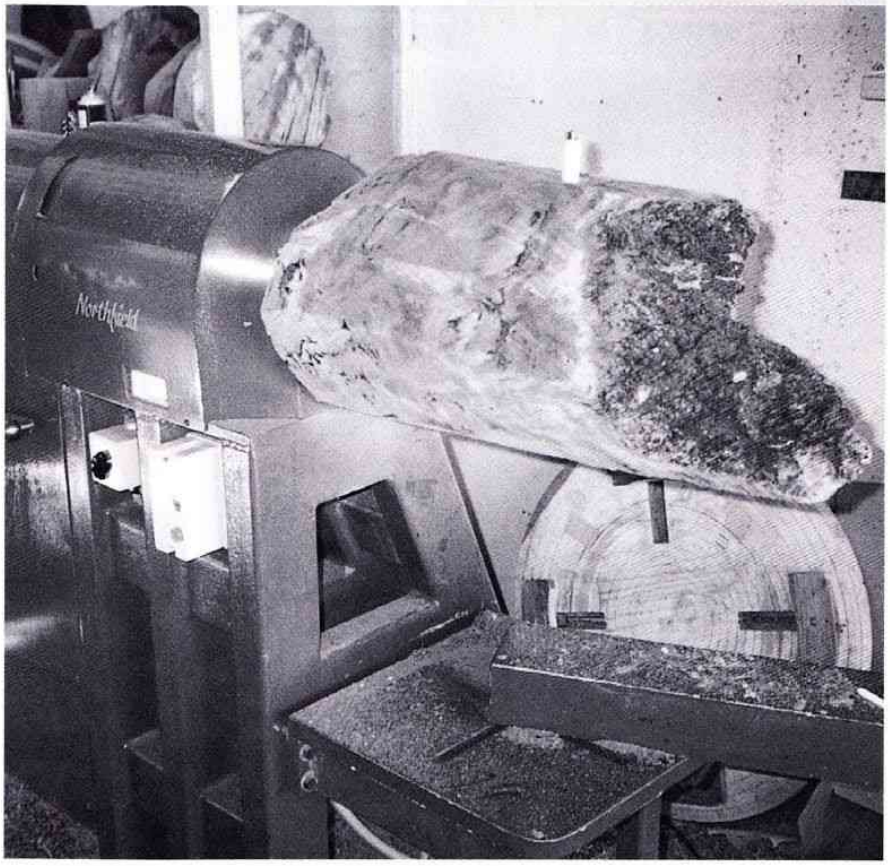
The lathe stands 1450mm high overall and swings 625mm over the bed, for a work diameter of 1250mm. It is 860mm wide at the base, 390mm wide at the headstock and 1610mm long overall.

It is not surprising that Shawn is very proud of his lathe. There is no doubt that this is not only a successful lathe for turning massive pieces, but it is thoughtfully designed and incorporates many features that other turners would envy.

Below left: The lathe incorporates Vicmarc Machinery's mechanical system.

Below: The blank mounted is 914 x 406mm and weighs 85kg.





By Dinah Hall

SAWMILLING IN AUSTRALIA

PART II

Last issue we looked at the establishment of Australia's fledgling sawmilling industry up until the time of the Second World War. Part II takes up the story...

Log getting in Central Highlands, Victoria.

Where once the forests resonated to the ring of an axe, they now hum to the craw of the chainsaw and the roar of mechanical loppers and stackers. In the past 208 years profound changes to the native forests have refigured the face and future of our sawmilling industry. Approximately 1400 sawmills (1170 hardwood and 230 softwood) of various sizes currently operate throughout Australia. An estimated 59% of the pre-European forests remain in the form of 41 million hectares of native forest. Of this, 29.4 million hectares are publicly owned and the remaining 11.3 million are privately owned. Of 12 million hectares of publicly owned land being managed for wood production, 7.1 million hectares are available for logging and regeneration. The forest products industry is now the second largest manufacturing industry in this country.

Between the Wars

In the early twentieth century sawmilling was well established as an industry primarily run by families, with a handful of exceptions. While the Federation of the colonies in 1901 reduced tariffs and encouraged trade, the industry was still hamstrung by the low tariffs on New Zealand, North American and Baltic imports. The more manageable softwoods dominated the market over difficult-to-season eucalypt hardwoods.

Yet, the industry expanded through establishing more small mills and increasing employment. By the outbreak of war in 1914, Australian mills were operating with an average power of 24 kilowatts and an average workforce of 18.

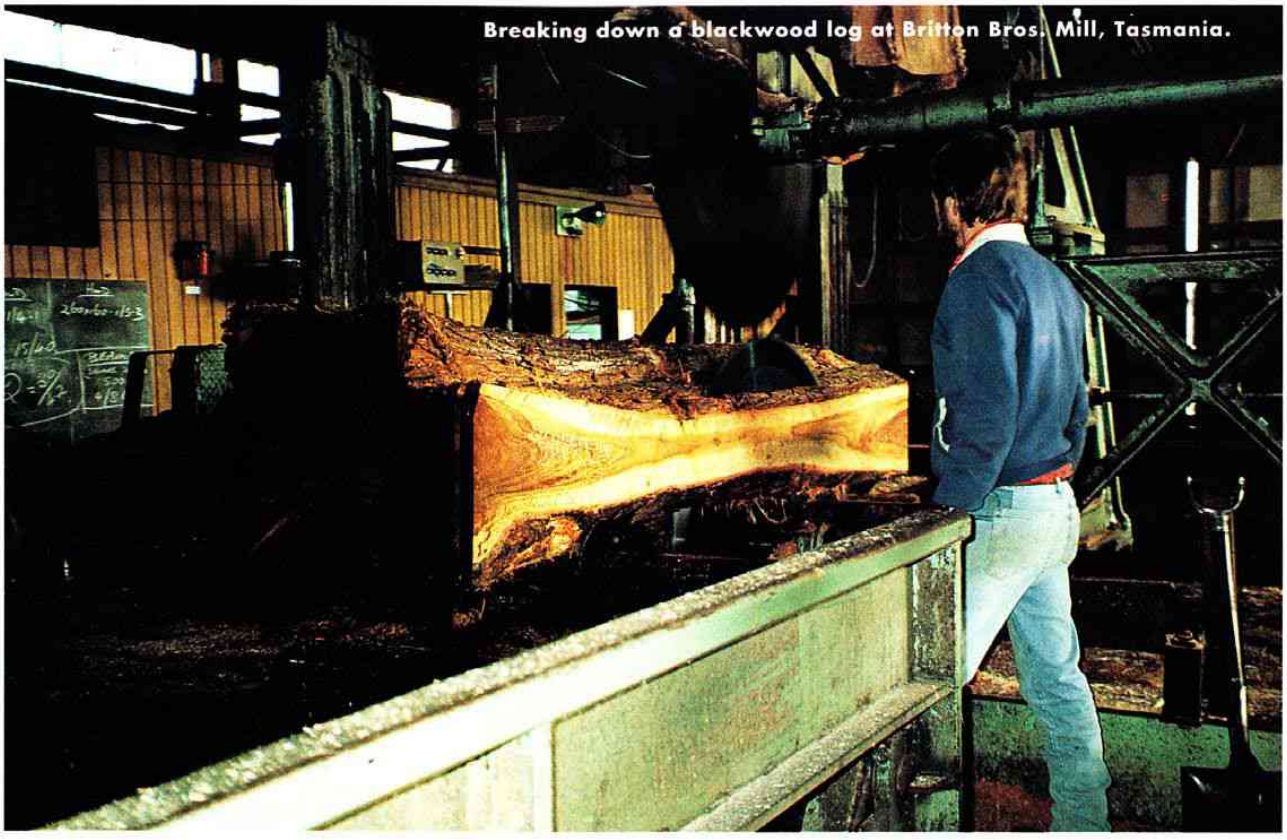
The First World War provided a temporary boost to the industry as returning soldiers demanded hardwoods for house framing and tariffs were increased on imports. Government money was injected into the industry with the Council for Scientific and Industrial Research (the predecessor to the CSIRO), finding new ways to season indigenous hardwoods.

However, the 1930s economic depression king hit the ever-vulnerable industry—employment and production plummeted a staggering 60% overall. Merchants owned many mills and held better access to markets, as well as enjoying the benefits of kilns and planing machines to add value to the timber products. Fierce competition from the merchants strained the smaller family businesses. Many went under.

Changing Technology and Changing Fortunes

Strict government controls throughout WWII created shortages on all fronts including materials, machinery and labour, and the industry once again was held in limbo. Post-war prosperity for the Western World and Australia provided the backdrop for a long boom period from 1946 until the mid-1970s when the fortunes of the sawmilling industry took on an entirely new dimension.

The cross-cut saw, the axe and steam for heavy hauling and working the mill saws, powered the sawmilling industry up until WWII. Returning soldiers found electricity driving the wheels of industry. Hooked up to the sawbench, electricity largely automated the sawmills whilst simultaneously moving them out of the forests due to their need to be connected to the public electricity grids. Cheap war-surplus machinery also enabled a mill to be operated by just two or three men.



Breaking down a blackwood log at Britton Bros. Mill, Tasmania.

Combined with engine power, often diesel or petrol driven, the average mill doubled its output during the 1950s.

The mills worked overtime to meet the demands of returning soldiers, the baby boom and also the influx of new immigrants arriving at a rate not seen since the Victorian Gold Rush days. Approximately 2.5 million immigrants and refugees arrived to enjoy a prosperous Australian post-war lifestyle, epitomised by near full employment. The demand on Australia's forests grew as imports fell. Australia was short on American dollars; North American pine was expensive and Baltic imports were difficult to obtain as post-war Europe was rebuilding itself.

By 1953 approximately 1600 smaller sawmills were operating, often taking mobile mills to the forests to rough cut the green timbers for house framing and wooden boxes. By the fifties the annual cut of timber for domestic needs had risen from five to eight million cubic metres.

The advance of technology saw the first two-person chainsaw appear in the forests in 1954, to be replaced in the 1960s with the chainsaw as we largely know it. The chainsaw revolutionised the speed of cutting and optimised selection of sawlog-quality timber. The fifties also saw the introduction of hydraulic systems to replace the superhuman effort previously employed in handling logs. Combined with this came more efficient heavy-duty diesel engines, bigger road transports and better roads.

Saws for the Mills

With new sources of power came a fine-tuning of existing technology, most notably, the saw. The introduction of the bandsaw in the 1860s was the first real application of North American technology in sawmilling, as previously British machinery had dominated the scene.

Bandsaws offered accuracy and enhanced recovery and were quickly adopted by the Huon Timber Company operating outside Geeveston in Tasmania. They were initially best suited to cutting the softer timbers with few growth defects rather than native hardwoods. With their accuracy, stability and reduced kerf (around 2.5mm) bandsaws were the answer to improving recovery rates from the hardwood log.

Sawmill pioneers Hyne and Son of Maryborough were probably the first to successfully apply bandsaws to hardwood sawmilling. The bandsaw was subsequently adopted and modified by Risbys in Tasmania and the Duncans in NSW paving the way for hardwood milling today.

'High strain' bandsaws were introduced from the US in the early 1980s. The joins in the high tensile steel band were also modified to prevent them flying apart when sawing hardwoods. Some mills are set up with twin bands to cut small hardwood logs and quad bands for softwood.

In spite of this, the circular saw is most commonly used in mills today. Improved steel quality and the introduction of carbide tipped blades in the 1950s have improved their performance, although their wide kerf (5mm plus) has ensured plenty of sawdust sweepings on the mill floor.

Some sawmillers, such as Notaras of Grafton prefer long life chrome plated circular saws for flitch cutting. Abrasive timbers and those with a high silica content tend to very quickly blunt or even break carbide tipped saws. Constant sharpening and refitting of blades can prove to be very costly.

Wet Or Dry?

Air drying timbers is a slow process dependent on the species and thickness of the boards. Some attempts were made in the late nineteenth century to mechanise the drying process, however, these were not very successful. Hardwoods proved to be particularly difficult to season. It was not until after the First World War that kilns were seriously considered. Some steam drying was attempted but without much success. The CSIRO was put to work developing techniques of *reconditioning* timber. By the 1930s kilns were being installed at some of the larger mills with smaller mills collaborating to establish a kiln. The establishment of kilns has led to the repositioning of Australian hardwoods into higher value domestic and export markets. Over 100 new drying kilns were established in Victoria between 1985-1995 and have lifted the value of hardwood timber products by more than $60 million annually, without increasing the overall volume of timber.

Waste Is Not Wasted

Waste has always been a problem for the sawmiller. The process of *breaking down* a log into flitches involved *spotting* it by cutting a flitch from one side, to provide a level base before resawing. The log was then rolled over by a winch or crow bar and cut again. However these cuts were often inaccurate with the resulting flitches varying in size. Trimming the flitch into boards produced further waste. A highly accurate log carriage was part of the answer, a reduction in the sawblade kerf was the other.

Conversion rates of sawn timber from the log depend on variables such as species, size and quality but recovery rate is now generally 40-70%. Waste was once burnt, but nowadays bark is bagged up and sold as garden compost, whilst offcuts are chipped. Some mills have made a business of buying other mills' waste and chipping it for export.

Sustainability

Sustainability of the industry has demanded the increased establishment of plantations and the reduction in logging of slow growth hardwood forests. Consequently, the target product of mills is changing. Traditionally, the market has been divided into softwood and hardwood markets with distinctively different applications. For instance, after the war house framing was always hardwood and softwoods such as pine were used for utility purposes such as crates and pallets.

Today pine house framing is preferred. In the late 1980s the Victorian Gov-

ernment recognised the changing face of the sawmilling industry and only issued licenses if the mill was undertaking value-adding initiatives. Consequently, many mills now specialise in creating hardwood timber products, such as those for furniture. What were once regarded as defects are now promoted as features. Softwood plantations may provide the future for the sawmilling industry based on the 25-30 years required for softwoods to mature and the 80-100 years required by hardwoods.

Restructuring An Industry

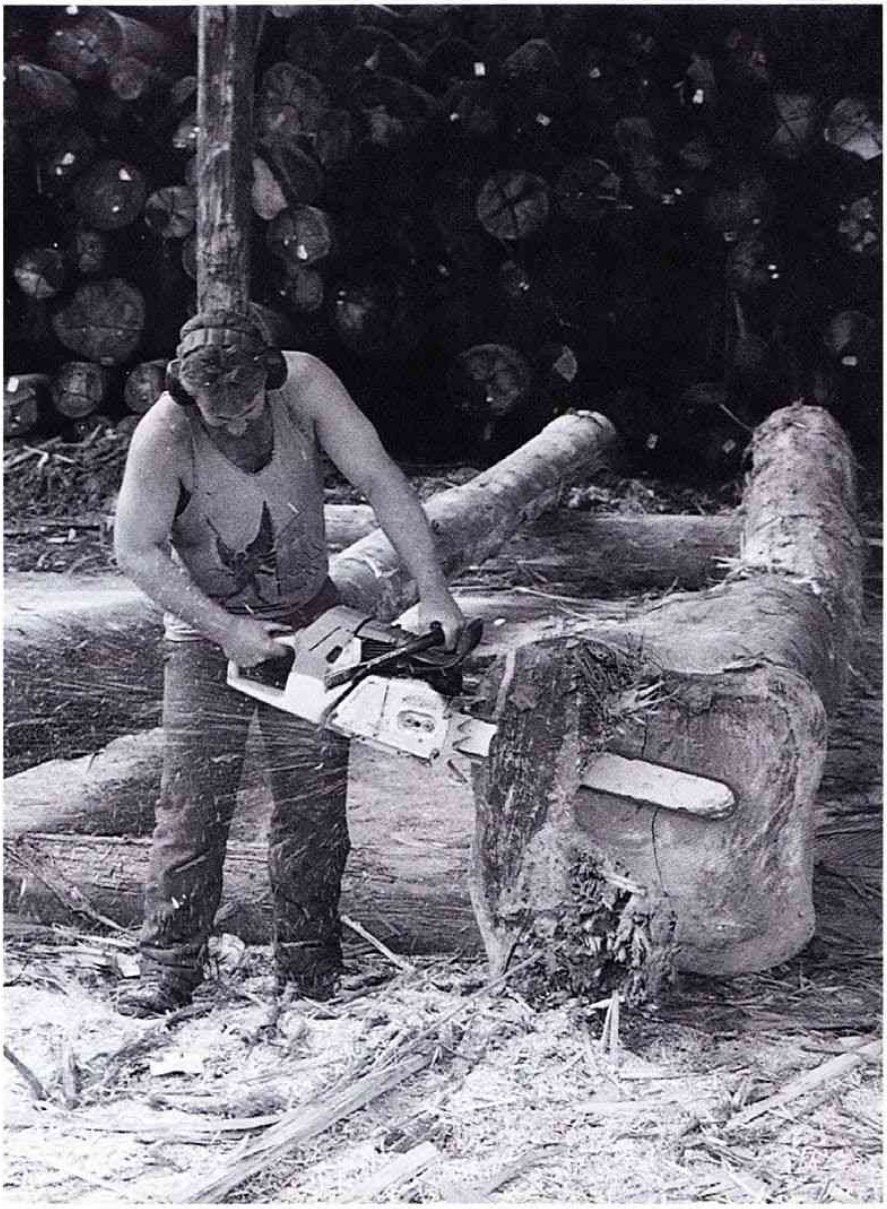
The economic downturn in Australia in the early 1970s hit the industry hard as manufacturing dropped off alongside the building industry. Public pressure for more national parks and wilderness areas and a budding awareness of the limitations of the natural resources lead to a reassessment of the forests. In conjunction with industry, government reduced the areas being logged. Hardwood sawlog quotas in State forests were cut by 40-60%. The reduced availability of hardwood for building contributed to an increased use of metal and concrete in building and pine in furniture and house framing.

Big Players

Company names such as Boral, Amcor and CSR may be more familiar to consumers than the name of the local sawmilling family. Yet despite this national trend towards a consolidation of ownership of everything from the plantations, sawmills, point of sale outlets, and transport in between, many small to medium sized family companies continue to operate. The family companies are finding themselves pitting their business against multi-national companies and yet only occasionally coming off second best. It may be the same determination, adaptability and tenacity that took the pioneering sawmiller into the forests to hand cut the largest tree that keeps these companies going.

The Future

The NSW Government's forestry package released in September 1996 has been



hailed as a blueprint for national reform as it was accepted by both the timber industry and the conservation lobby. The package offers a balance between renewable five-year logging contracts for the timber industry, while also securing new national park and wilderness areas. The 10 new national parks and 12 new wilderness areas represent 953 000ha of State forest.

Thus the timber industry will lose about 40% of its land base. This comes on top of a 30% cut to logging yields introduced earlier in the year. For smaller sawmillers, those employing around a dozen people, this inevitably may mean some employees will be layed off. Yet the five year renewable logging contracts are the best-ever resource security offered to the industry. (In 1861 when licences were first granted in New South Wales Forests they were for one year only!)

A further 670 000ha of State forest has been placed under moratorium until a two-year environmental impact report has been tabled. The report should dictate the future of the industry in that state, at least. Once it has been established exactly how much timber exists and how much can be logged in a sustainable way, the future of the sawmilling industry will be much clearer.

References

Dovers, Stephen (ed). Australian Environmental History: Essays and Cases, *Oxford University Press, 1996*

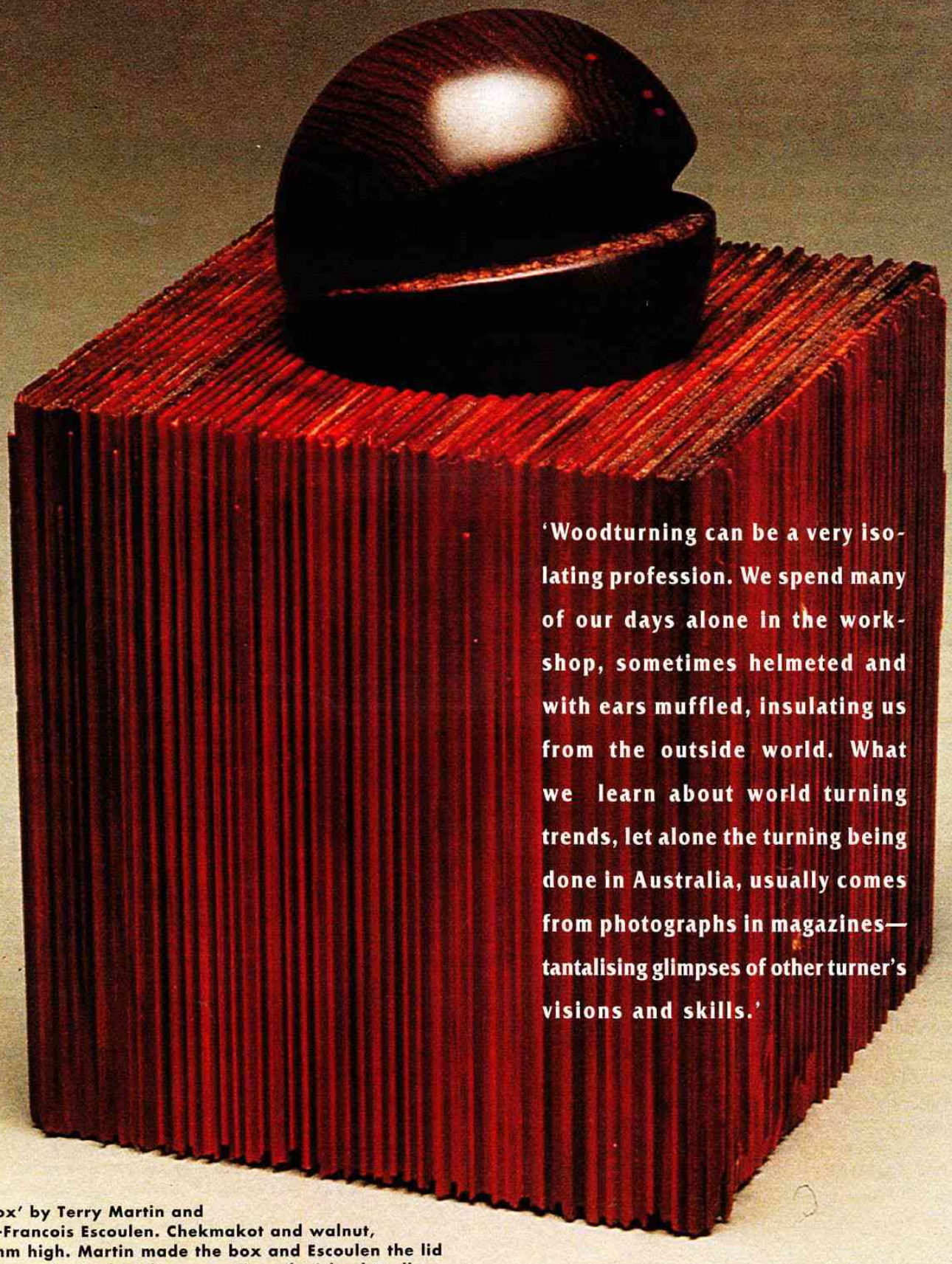
Taylor, Helen. Plantation Forestry: An Introduction in Aust Wood Review *#8*

Carron, LT A History of Forestry in Australia. *Aust. National University Press 1985*

Dargavel J. Fashioning the Forests, *Oxford Uni Press 1995*

By Terry Martin

International Turning Exchange: Working Together



'Woodturning can be a very isolating profession. We spend many of our days alone in the workshop, sometimes helmeted and with ears muffled, insulating us from the outside world. What we learn about world turning trends, let alone the turning being done in Australia, usually comes from photographs in magazines—tantalising glimpses of other turner's visions and skills.'

'Squox' by Terry Martin and Jean-Francois Escoulen. Chekmakot and walnut, 180mm high. Martin made the box and Escoulen the lid which was incised at the suggestion of Michael Brolly.

Two years ago I applied to participate in the International Turning Exchange run by the Wood Turning Center (WTC) of Philadelphia. The brainchild of Albert le Coff, it is a project that took him a long time to get off the ground. Most people were cynical about it at first, but he was convinced there was a possibility of genuine exchange which would produce long-term benefits for the turning world.

I was accepted on the basis of both my turning and my work as a writer. Because the WTC is aware that such a project is only as good as the publicity it receives, they resolved to include a resident writer in each year's group. It was to be a unique chance for me to expand my horizons in both fields.

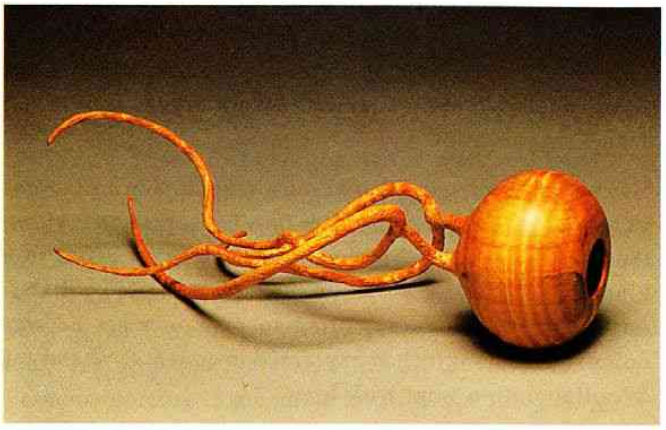
As a group we attended the 10th annual congress of the American Association of Woodturners in North Carolina. It was a rare chance as over 1000 turners attended to see more demonstrations and rotations than you could count. There were two exhibitions with around 800 pieces of turning, all of a remarkably high quality. We also visited the uniquely American collectors and their astonishing homes full of turnings. Some of these collections include hundreds of pieces showing the full range of American turners and works from other countries.

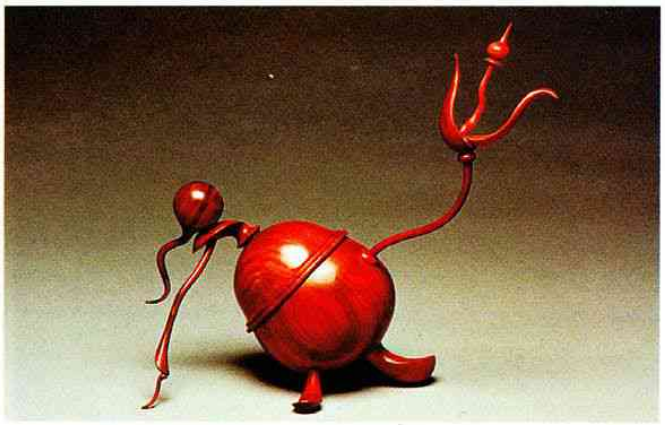
The residency itself was on campus at the stately George School, just outside Philadelphia. Surrounded by woods and lawns we were housed in a 100-year-old farmhouse. It was summer break and the staff and students were away. Four of us spent every day we could turning in the wonderfully equipped workshop using a variety of machinery and timber that was all provided for our benefit.

French turner Jean-Francois Escoulen was the other expatriate. From a traditional turning background, he has recently become known for his eccentrically turned lidded boxes (see AWR #12). Despite some language problems, he proved to be the most genial of companions and was liked by everyone. He modestly denied that he was special and then proceeded to astound us all with his skill and imagination.

Michael Brolly is a quiet, reclusive American turner who initially was unsure how he would fit in with a group of other turners. In fact he was a wonderful companion—considerate, sensitive to other's needs and a veritable encyclopedia of creative ideas. He is known for his figurative works which address either issues of intense personal concern, or public issues such as the environment.

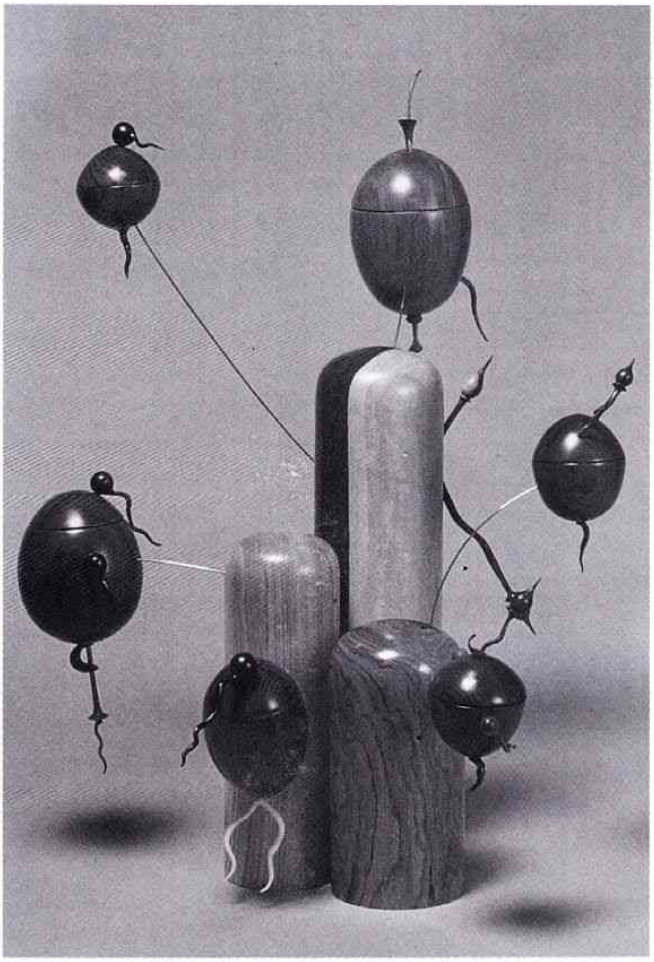
Hugh McKay, the other American turner, is a rough-edged man from backwoods country who proclaims loudly and long that he can do anything on the lathe. He tends to be forgiven because the truth is he does seem to be able to do anything! He hollows impossible shapes out of mountains of wood producing linked hollow vessels of such delicacy

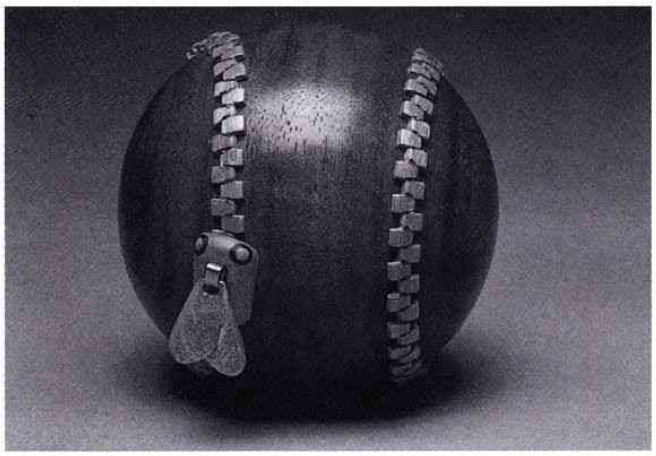


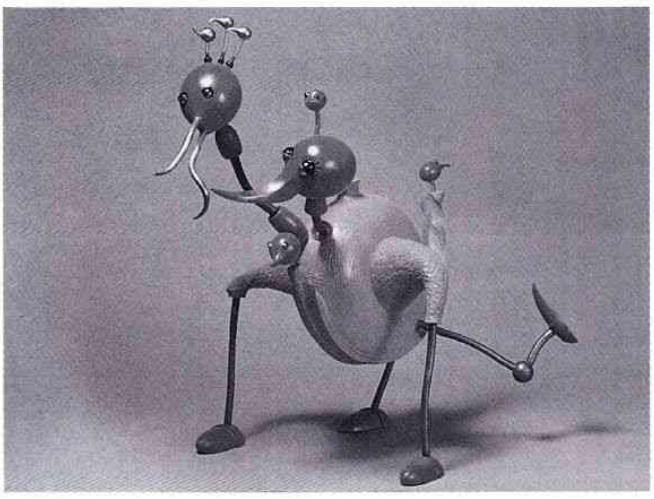


Top: 'Root Vessel' by Jean-Francois Escoulen. Maple burl 220mm long. The 'roots' are carved with a rotary burr. Above: 'Screw Ball' by Michael Brolly. Maple 230mm long. One of six 'baseballs' influenced by Mark Sfirri's bats.

Top: 'Garfield from Asteriod 5' by Jean-Francois Escoulen. Xatalox, 300mm wide. Above: 'Nouvelle Direction' (Chekmakot 150mm high) marks a departure from familiar forms for Escoulen.







and technical difficulty that even the best turners shake their heads in disbelief.

For myself, despite my commitment to writing, I was also determined to turn as much as I could. It was an interesting mix and we all earnestly set to work, committed to justifying our inclusion in the programme.

The buzz word in North American turning this year is collaboration. It pops up in conference titles and exhibitions everywhere. It could be seen as just a fad—an attempt to find new hooks to hang ideas on, or perhaps as an expression of the sharing nature of the woodturning community. Mark Sfirri, who lives near the George School, is recognised as a guru of collaboration. He visited us and explained his view of the collaborative process. 'Collaboration expands your vocabulary in terms of technique, shape and form. You can take advantage of someone else's strengths and expand the vocabulary of things that you do by seeing how someone else uses different techniques and re-interprets your own forms. It's not about making all the decisions yourself.'

Michael Brolly had been impressed with the quirky baseball bats that Mark Sfirri makes and decided to follow up with a series of balls. 'I'm taking off with a whole line of puns on baseballs. I thought it would get me going on collaboration with the rest of the guys.' Although Michael's work all starts out on the lathe, he carves extensively and uses an amazing repertoire of techniques. Although he never did get to finish a collaborative piece with the other residents, despite starting a piece with Jean-Francois, his whole approach to creative lathe work taught myself and Jean-Francois a lot.

Hugh never pretended that he was interested in collaboration other than letting others see how he works and inviting them to adapt his techniques. In fact Hugh worked in a kind of concentrated isolation that almost defied collaboration. He was always willing to explain what he was doing, but that, as he had explained in advance, was as far as collaboration went with him.

For the first few weeks Jean-Francois looked terribly worried and finally it emerged that, due to language difficulties, he had thought we were there only to produce collaborative work. He couldn't understand why everyone was working alone, but when it was explained that he could do what he liked, he started to enjoy himself. Because of the formality of his training in spindle work, he was particularly attracted to the carving techniques that Michael and I use. In recent years I have been developing the textured carving taught to me by Vaughn Richmond

Top: 'The Music of the Sphermatazoids' by Martin and Escoulen. Various timbers, 600mm high. Centre: 'Fly Ball' by Michael Brolly. 100mm dia. Left: 'The Chicken Family goes on Vacation' by Jean-Francois Escoulen. Various timbers, 470mm high. His last piece reached new heights of the bizarre. Almost totally turned.

and Jean-Francois pounced on it as a simple way of free-handing shapes.

At first he adapted the new carving ideas to his eccentric lidded boxes and started to produce some really bizarre work. But then, as if a button in his head had been pushed, he launched into a frenzy of creative output, astonishing even Michael. In rapid succession he produced three of the most droll alien creatures one could imagine, surprising himself as much as the rest of us. It was almost as if he wanted to fly in the face of his background and no one could doubt that he succeeded.

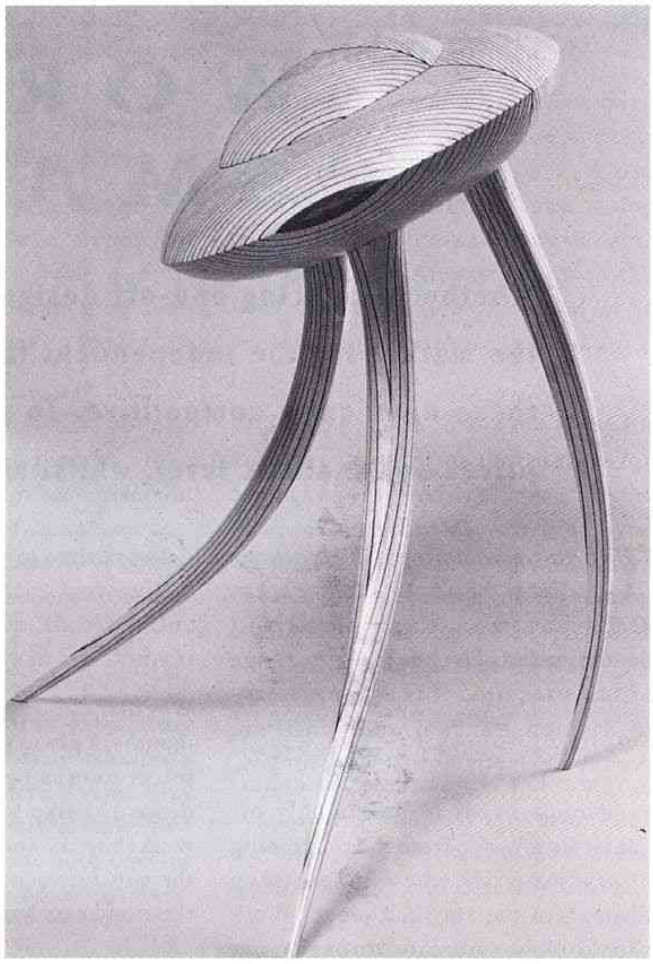
He and I also enjoyed working together on several assemblages. The design of these pieces may have lacked some unity, but the process was immensely enjoyable. We stayed up till late at night, rearranging pieces, rushing to the lathe to quickly turn new bits, sketching ideas, exchanging techniques and, most importantly, becoming good friends. It was a unique chance to partake of that collaborative process that Mark had spoken of.

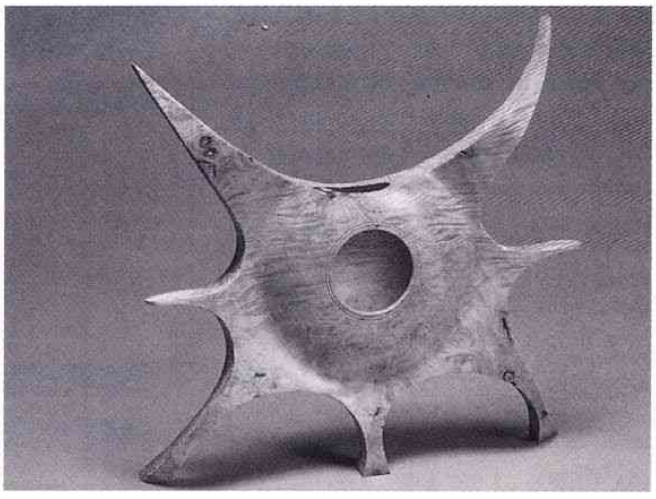
After 8 weeks our work was gathered for an exhibition, allTURNatives—Form and Spirit, in the prestigious Berman Museum. We presented 46 pieces and the show was both an artistic and financial success. For Australian turners it is a revelation to see how much American collectors respect good work and are prepared to pay well for collectable pieces. One of the collaborative pieces by Jean-Francois and myself sold for US$2,800, several of Michael's baseballs sold at US$1,000, one of Jean-Francois' insectile creatures sold for $1500.

So does collaboration work? The first pre-requisite is, obviously, an interest in doing it. The three residents who wanted to collaborate all gained in different ways. Although he didn't produce a collaborative piece as such, Michael was collaborating every day. He challenged, inspired and supported Jean-Francois and I in many ways and felt that the contact with us had affected him too. 'I'm realizing now that there's a little bit of Terry and Jean-Francois coming in me and a bit of me in you guys'.

Jean-Francois was adamant that his life was changed by the residency. 'For 25 years I've been a turner. For 15 years I turned table legs. Now I have turned a page in my history as a woodturner and I will never be the same.' No one who saw how his work changed could disagree.

For myself, I felt that the collaboration affected me less immediately, but I know that I have been changed forever by it. Now I can hardly approach the lathe without having new ideas based on my experiences in America.





Top: 'Dancing Tryclops' by Michael Brolly. Laminated veneers 1000mm high.
Centre: 'Brunhilda Box'. Walnut, 320mm high. The lid was designed as a bowl by Martin but adapted to Escoulen's box.
Right: 'Dilemma' by Terry Martin. Fiddleback maple 270mm high. Turned as a platter, carved on a spindle sander and stood on edge at the suggestion of Michael Brolly.

By Anton Gerner

WORKING SMARTER

Whether producing one-off designs or limited batch production items, the market for the independent furniture designer/maker is small and these days quite competitive. To survive, ways must be found to keep prices at a realistic level, whilst maintaining a high standard of quality.

To gain monetary profit from your business the amount of time spent handling and processing materials must be minimised. To cope with the range of tasks required it is also necessary to develop standard and consistent production methods that work for you.

Production needs to be a highly organised sequence from the processing of raw materials entering your shop through to the finished piece. Work should flow smoothly through your workshop, organised so previous operations are not repeated. With simple planning and smart work practices you will be able to maximise your profit from each job, whilst continuing to output a quality product.

Planning Ahead

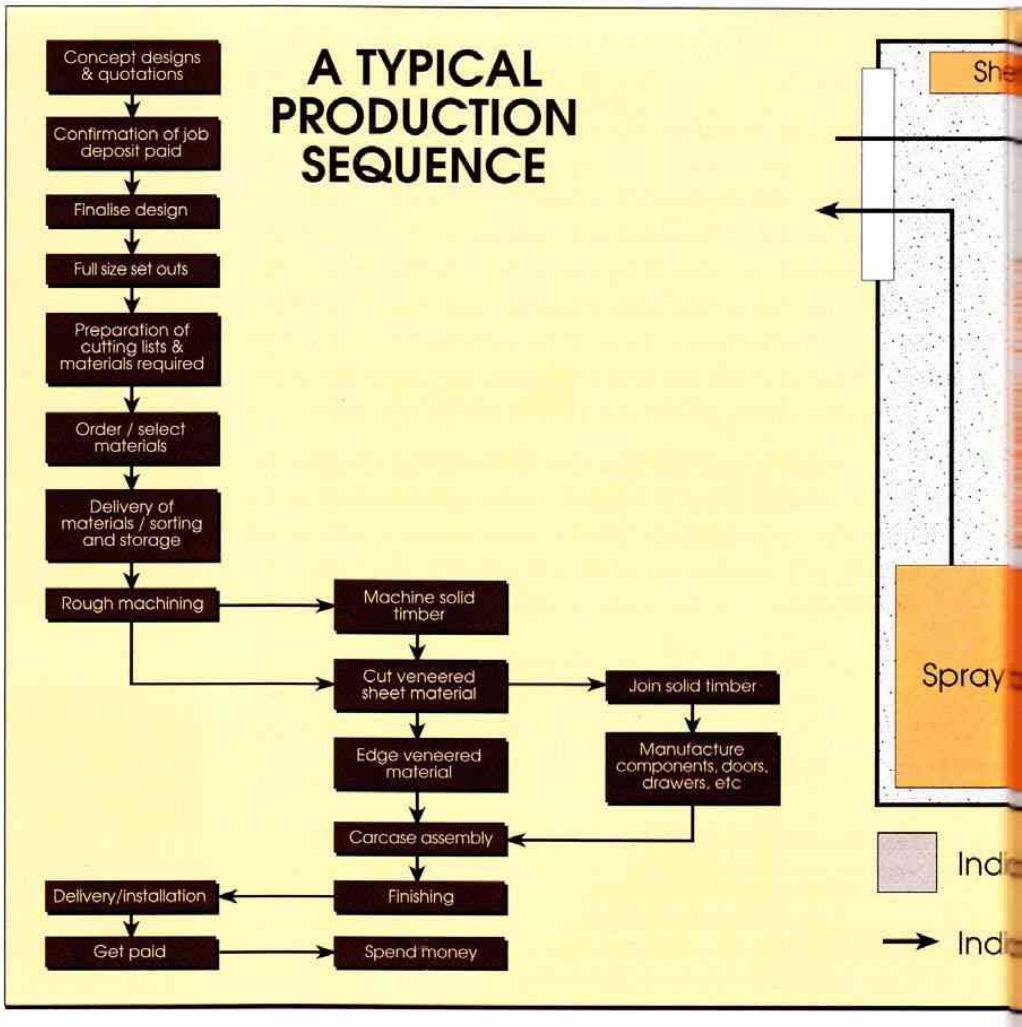
Always plan your work ahead as far as possible. Use a wall planner to mark down delivery dates, exhibitions you may be working towards and construction times allowed for each job. This lets you see exactly how much time you have ahead for a particular job. It also helps when quoting delivery times, as you may be able to slot an unplanned small job in between two larger ones, or make two of an item at the same time.

I never quote any less than six weeks delivery time and always try to quote the maximum possible (often up to 4 months). A long delivery time allows you to take on extra work or to work on similar jobs at the same time. You'll also have extra time for unforeseen problems. You can use a long delivery time to your advantage when selling yourself to a prospective client. After all, quality takes time and if you sound busy, you *must* be good!!

Whether quoting three weeks or three months, I always order timber for the job as soon as I get the go ahead and a deposit. I like to get timber into the workshop as soon as possible to let the moisture content stabilise. Having the timber on hand also allows you to start a new job while working on another job or if one is delayed. Planning work ahead also allows time for sourcing unusual or scarce timbers.

Time Tracking

If your work is organised it is much easier to keep track of the hours spent on each job. I always keep an accurate time sheet for each week, noting time spent on separate jobs, quoting, marketing, administration and



so on. At the end of each job I total the hours spent and work out the actual material costs and calculate the profit or loss. This is most helpful for future quoting on similar jobs, where you can use comparative pricing for quoting.

I keep track of everything on computer, allotting each job a number. As materials are purchased they are allocated to various job numbers or into stock. Like it or not, you cannot successfully run a business without keeping track of what's coming in and what's going out.

Buying Materials

Time and money can be saved by ordering materials for several jobs at once. If you order timber for three jobs at once you only have to pay one delivery charge. For the designer/maker of individual pieces it is very difficult to bulk buy timber in packs at discount prices, as every job requires something different. It is not cost effective to hold large stocks, so timber must be purchased as required. Unusual and hard to find species should be acquired when the opportunity arises and held onto until the right job comes along. Avoid too much hoarding though.

Buying materials, such as glue, at bargain or bulk prices can save money but might not prove cost effective in the long term. If that cheap glue fails you'll spend a lot more on the repair.

Periodically, larger hardware suppliers do have specials on some popular items such as drawer runners. Take the opportunity to purchase discount stocks of the standard items you use. Discontinued handles can also be bought at a bargain price for that one-off piece.

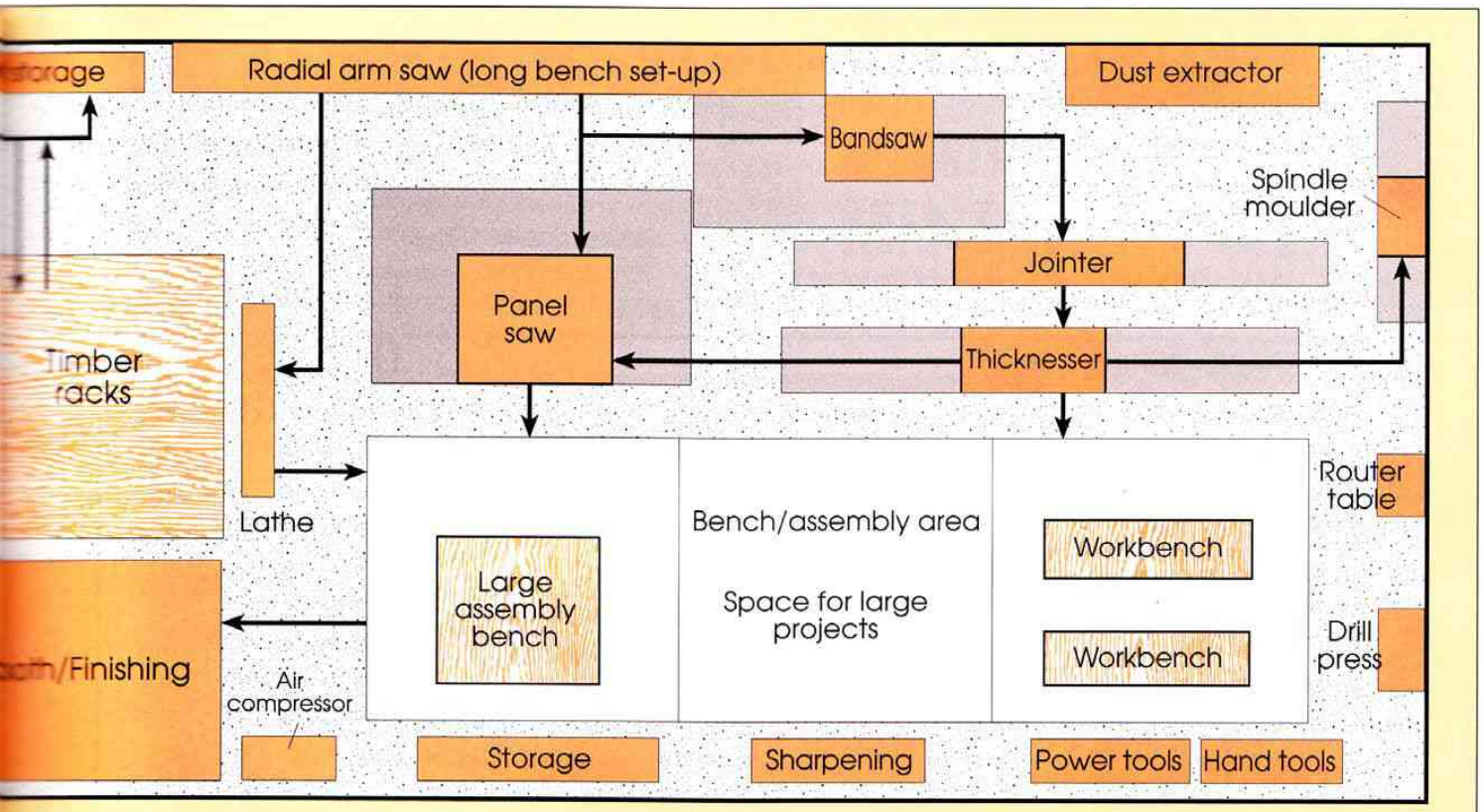
Maximising Materials

Timber costs for a single job can be high so always spend time calculating an accurate cutting list to maximise the use of your materials and thus minimise wastage. I often make two cutting lists for the one job, one for solid timber and one for veneered sheets. Work your cutting lists out accurately before you start machining.

From my computer I produce a page with three 2400 x 1200mm 'veneer sheets' drawn to scale on it. I use these for planning cutting layouts, noting down measurements and any unusual cuts or details. An extra copy on the workshop pin board is helpful as is another copy in the file for future reference.

When ripping solid boards to width keep any thin offcuts that may do for edgings on veneered work. Small offcuts of veneered board can often be used for single drawer fronts where the grain doesn't have to match, or for hidden components such as the underside of kickboards and internal shelves.

To maximise the use of solid timber, always try to keep within the workable standard thicknesses and lengths available as this will minimise your machining and generally make it easier when selecting and ordering timber.



AN IDEAL WORKSHOP

Workshop Layout

Workshop layout is very important. Save time by arranging your machines in the sequence that work is done. Placement of the major stationary machines and work surfaces is critical to making your workshop work for you.

Timber racks should be placed near the door where you unload. If you use a radial arm saw this should be next in line to rough cut timber to length. Following on in order of use should be your planer, thicknesser, bandsaw, tablesaw, moulders and finally bench and finishing areas. A good layout maximises the use of floor space and creates a smooth flow of materials through the various production stages in your shop.

Work Flow

Try to organise your work so it flows through in stages. Always complete one step or process before moving onto the next. If you have space it makes sense to plan your work so two similar projects can be worked on at the same time. While the glue or finish is drying on one you can be working on another. Similar joints and details can be cut at the same time and all the sanding done at once. If smaller jobs can be pushed through during the production stages of larger ones you can take advantage of the machine set ups and your profit margins will be increased.

When making smaller items such as bedside tables and coffee tables try making one or two extra items as stock. For a one-off coffee table you have to set up for the joints anyway, so you might as well spend a few extra minutes to cut another set virtually for free. These can be client samples or sold through retail outlets for extra cash flow.

I also try to have a long term project to work on. An exhibition piece can be built in stages whenever you have a little time here and there, and certain processes completed during work on other jobs.

In Between Jobs

In between jobs is the time for cleaning up and organising your workshop. Use this time wisely to sharpen and maintain your tools and machines—sharp tools save time. Sort out timber and off-cuts and generally improve your working environment.

Standardising Production Methods

Although my business is largely one-off made to order furniture, I have developed ways of standardising construction and assembly methods, which can be applied to a range of projects. If you do a lot of veneered work with solid edgings, always machine your edgings to the same thickness, say 5mm. This makes calculating cutting lists very easy and allows you to machine quantities of edgings for stock when you have some spare time. I always have machined edgings in the main timbers I use in stock, ready to use when I start a job.

When working on several projects with drawers for example, time can be saved by standardising your drawer components. Keep drawer depths to a few sizes, and sides to a standard thickness of 10 or 12mm to simplify construction in production work. Every time you make drawers simply machine your timber to this thickness. If you make a lot of drawers you can even machine up long strips of timber for the standard depths and have them on hand ready to go. Over a period of time you will develop some standard production methods that suit your type of work.

Conclusion

With all of this in mind it is also very important to continue to enjoy the work that you do and not to lose control of quality. Over time try to develop and work to a system that allows you a smooth production sequence in a planned time frame. Careful planning of your work from start to finish, good workshop layout, maximising your materials and standard production methods are the keys to working smarter.

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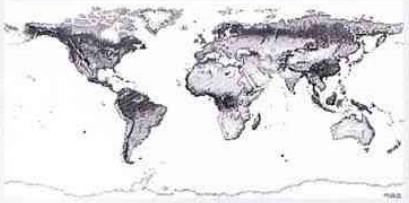

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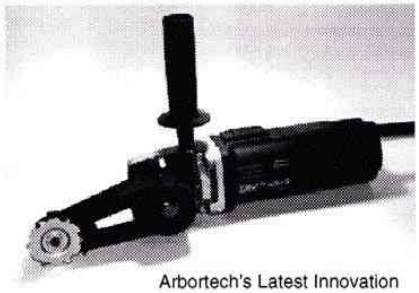

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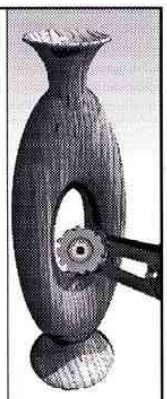

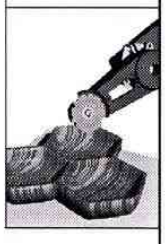

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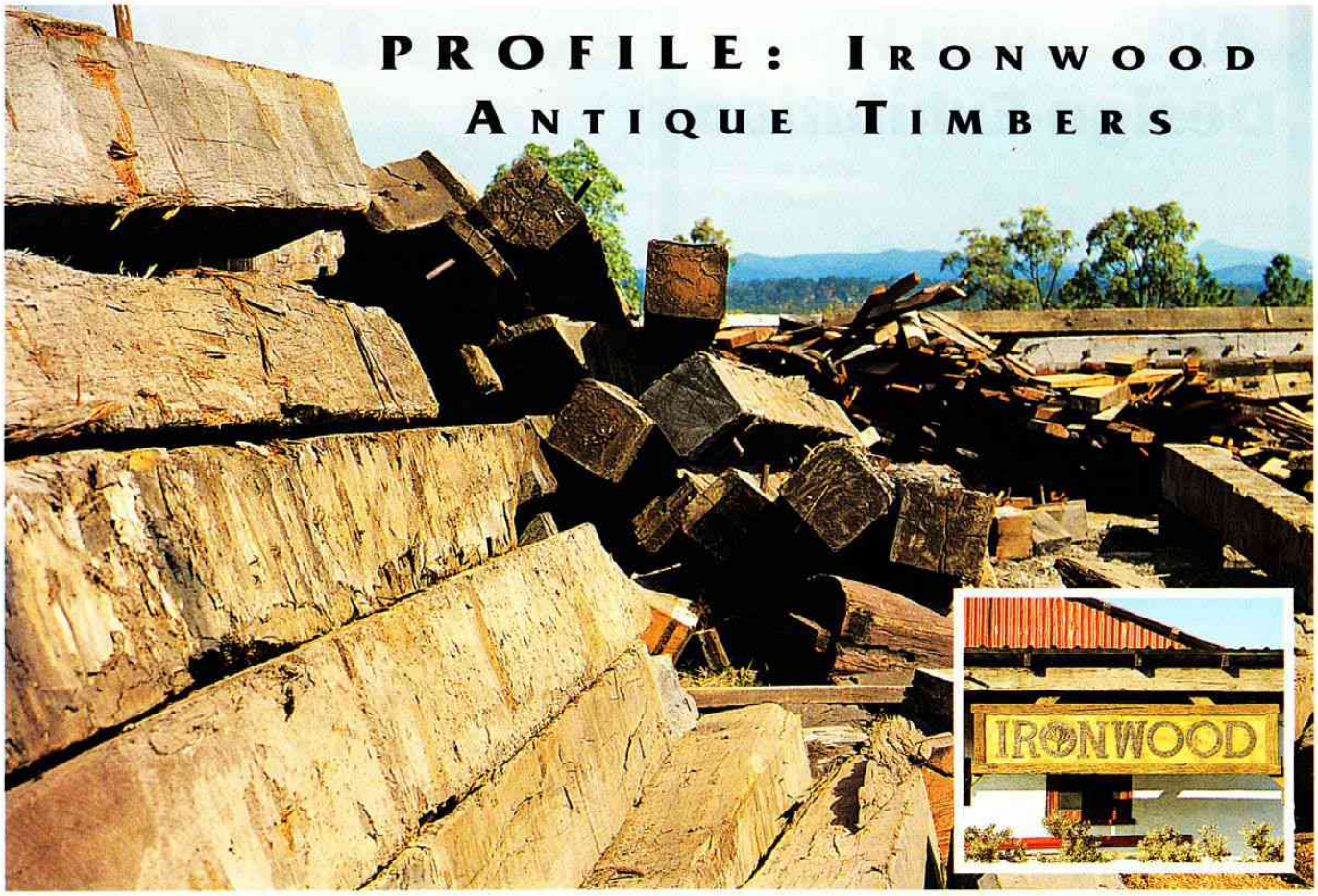
PROFILE: IRONWOOD ANTIQUE TIMBERS



Secondhand or demolition timber yards are not new, but there is now a company in Queensland who is making a success of re-milling pre-used timbers into sections for architectural fittings, furniture and cabinetry, benchtops, linings, doors and flooring.

Before establishing 'Ironwood Antique Timbers' Jim Ruig owned a busy and profitable secondhand building materials yard in Milton, an inner suburb of Brisbane. About a year and a half ago Ruig decided to start a new venture of his own. Years in the demolition game had allowed him to build up an extensive network to source top grade structural timbers which were being removed from their original sites to make way for new constructions or developments. Of outstanding quality and appeal, Ruig felt the timber could be further processed to satisfy some current trends in consumer demand.

Secondhand does not mean second option, and for many people it actually ranks as first choice. 'The timber has character, tight grain, it's very hard, well seasoned and has a colour that only comes with age', says General Manager of Ironwood, David Andrew. The timber has, according to Andrew, a look which is 'classic', because it suits modern and traditional purposes. 'We make rustic or antique style doors with wrought iron fittings which we sell from our new display centre. The timber fits any interior setting: contemporary, rustic, traditional, Japanese farmhouse, Sante Fe or whatever. Red Earth and City Beach stores have used our timber for their fitouts.'

Timber is sourced from all over Australia as far afield as Perth and Bunbury. Recent local sources have included Bretts and Teneriffe Wharves on the Brisbane River, the old Coca Cola factory, old churches, railways and goods yards. Some of the old wharf piers are nine metres long and up to 450mm in diameter. Preserved in the river mud the timber is in excellent condition, only needing trimming around the water line where some rot may have occurred.

Timber of both large and smaller sizes is thus 're-milled' and dressed to customer specifications and comes in packs which are available in either 'character' or 'select' grades. The character grades have the same structural integrity and stability of the select ones—the difference is that they still bear the evidence of their past life. The markings left by nails and spikes lend a certain character to the wood. In the same way some people like to buy their jeans pre-washed or stone-tumbled, some people like their timber pre-aged. If that aging process is genuine, so much the better. Select or clear grade timber has been sorted into packs which are free of these character markings.

The yard carries many species including different ironbarks (*Eucalyptus drepanophylla, crebra*), tallowwood, spotted gum, blackbutt, Sydney blue gum and jarrah. These timbers are by nature

dense, hard and durable having been originally selected for structural usage. The colour of the timber has mellowed over time. Sections and volumes vary somewhat, though supply is generally consistent. Oregon and hoop pine are also stocked.

When timber comes into the 4.5 acre yard at Darra it goes first to a holding shed and from there through a metal detection process. Nails, bolts and wires are removed and in some cases are 'checked out' to leave square pockets in the timber. In the character grades the nail markings and pockets may be incorporated by makers of farmhouse or period style furniture as part of their character look. As tongue and groove flooring the character timber is also valued for its 'aged' look. Ironwood offer sandblasted mouldings, linings and architravings as further designer options. The current volume of timber stock at the mill is around 3,500 cubic metres.

With its roots firmly in the past, Ironwood is a business with its eyes very much on the future. General Manager David Andrew has been appointed to take the company from being a small family-owned concern, to a broader market milling and supply operation with plans to extend both Australia-wide and off-shore markets.

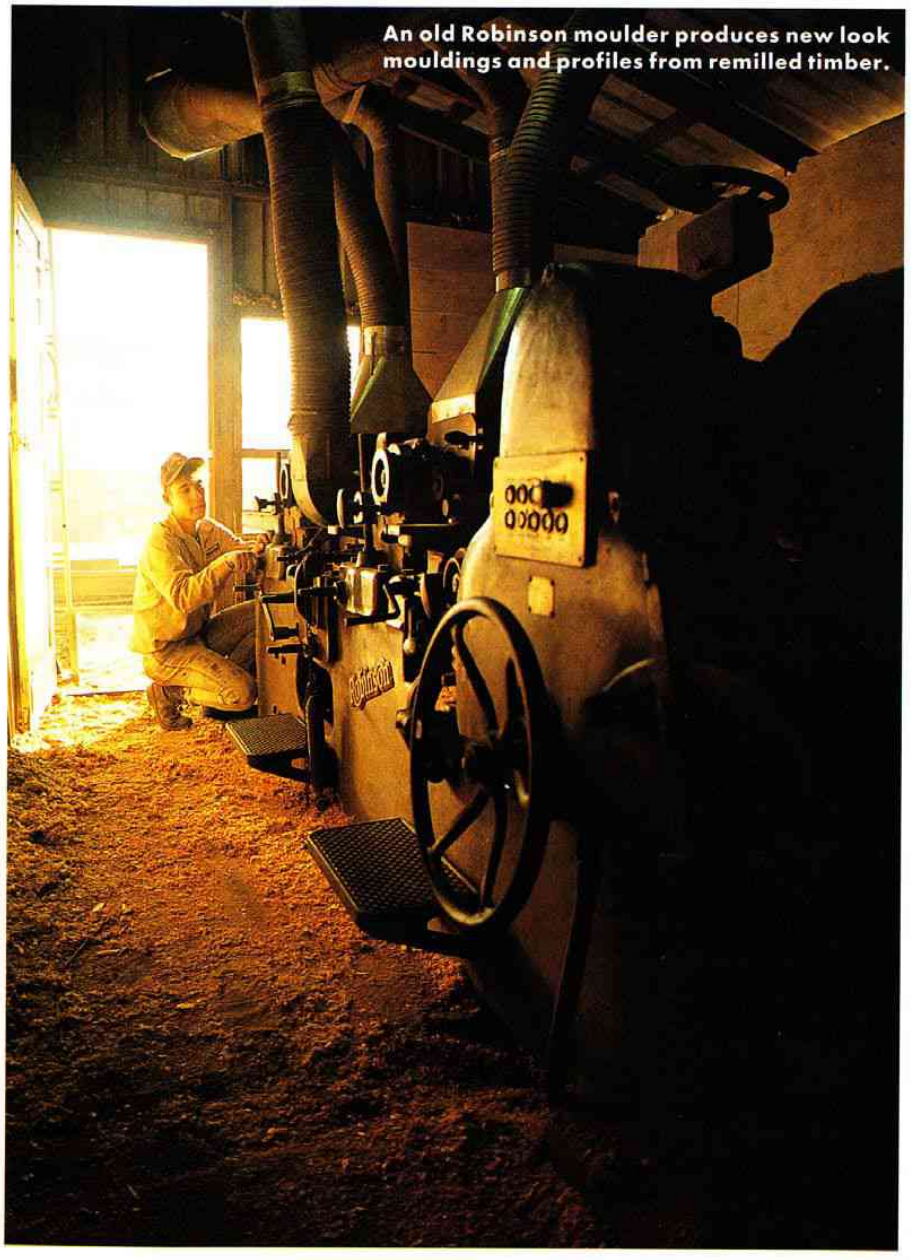
The large elevated site with its view of surrounding suburbs is being developed according to a large, hand coloured plan which resides in Andrew's office. The company is in the process of building sheds for holding, dry storage, processing and dispatch as well as a mill manager's office and display area. Development of the site should be complete within two years.

The current manager's office and new staff lunchroom are all furnished in ironbark flooring, architraving and furniture, both select and character grades. A long refectory table made from select re-milled ironbark serves as an office desk. In the new lunch room a large cypress tree still stands in the centre of the room, its living crown extending up and out of the ceiling and roof which have been built right around it!

Price-wise the re-milled timber is not what you might call a cheap option. After all, it's not an inferior product; it's dry, hard, stable and available in large sizes. That's not to say it costs more though. Prices for narrow width floorings of 75-80mm are competitive with new timbers. The wide width floorings offer a different look and are priced by the square metre, with costing depending on volume, species, board length and availability. Some of the larger timber sections which Ironwood market are simply no longer commercially available as 'new' timber.

Ironwood retail direct and through a network of architects, specifiers, builders and shopfitters who are catering to a demand for pre-aged timbers which also offer the feature of being recycled. Once upon a time the usual treatment for used structural timbers was, according to Andrew, to 'doze it or burn it'. Ironwood is proud to have found a way to value-add to an existing resource which was formerly regarded as waste. The company use this 'environmental' aspect as a marketing platform which strikes a chord in the hearts of some buyers. As you enter the office you pass by a sign which says 'The environment thanks you for using recycled timber', and of course, so does the management of Ironwood. Contact them on (07) 3279 0911.

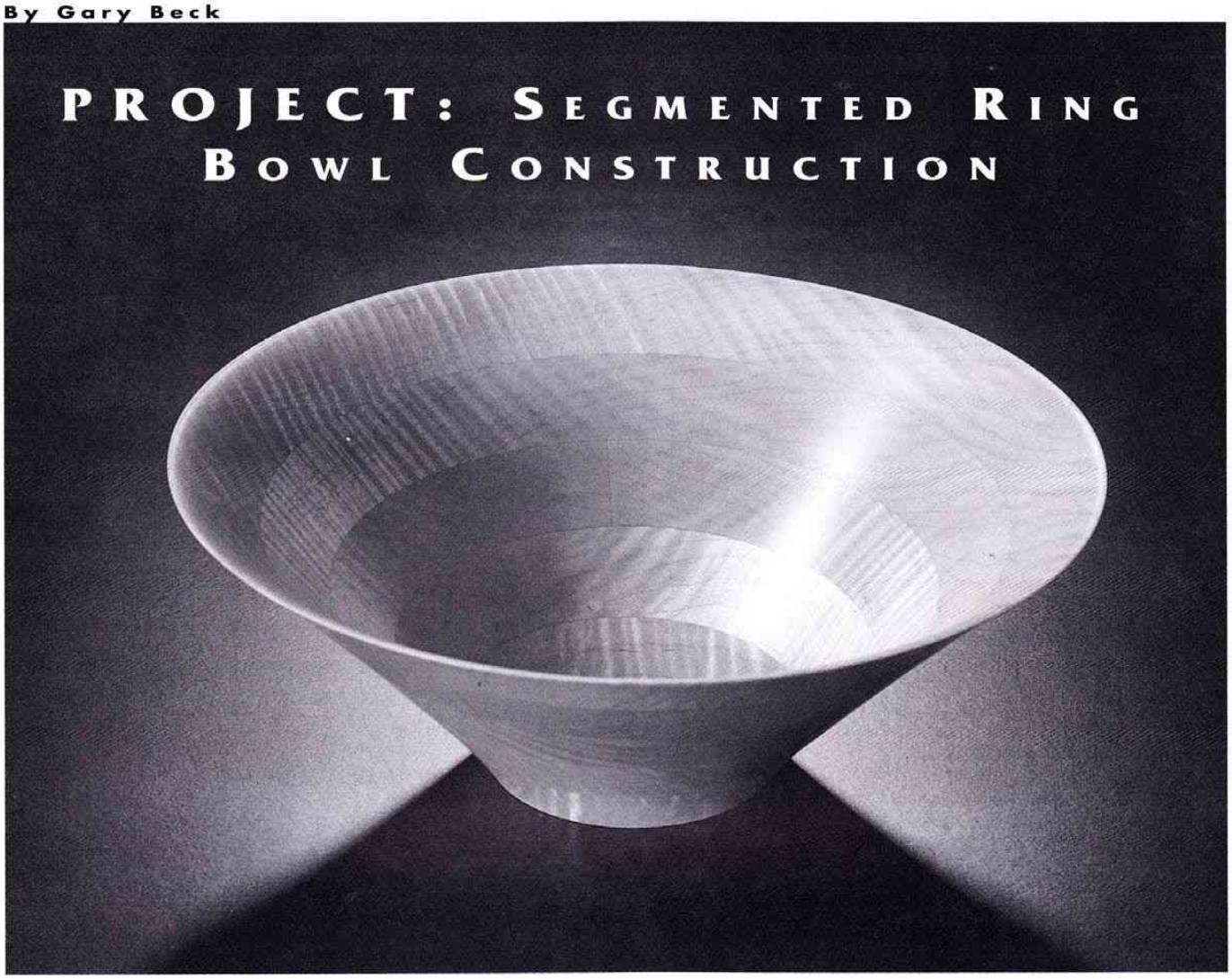
Photos inset opp. and below: Orpheus Design



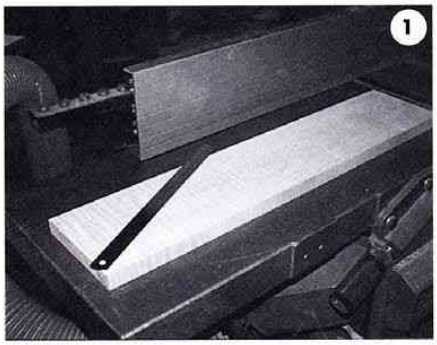
An old Robinson moulder produces new look mouldings and profiles from remilled timber.

By Gary Beck

PROJECT: SEGMENTED RING BOWL CONSTRUCTION

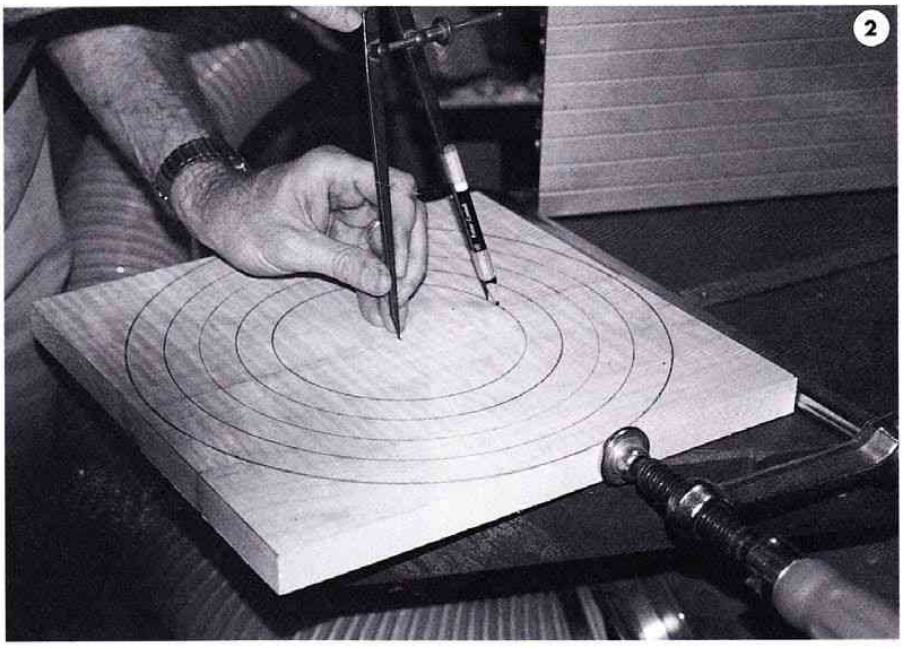


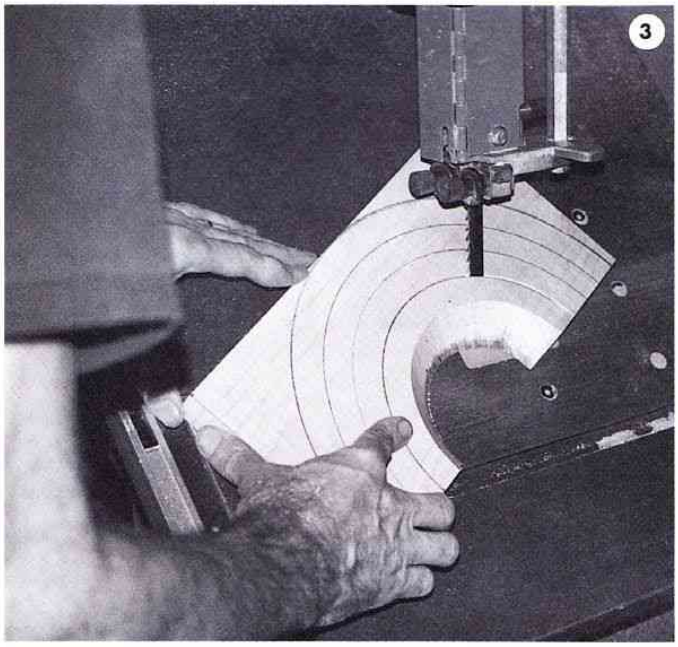
This project creates a bowl around 110mm high and 300mm wide from a piece of wood which is only 25mm thick to start with. The beauty of this method is that there is minimal timber waste and considerable scope for design variation.

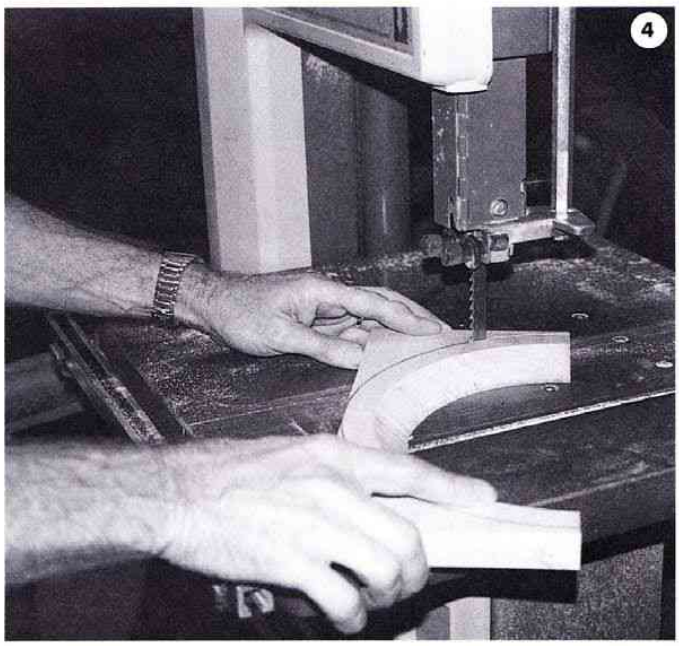


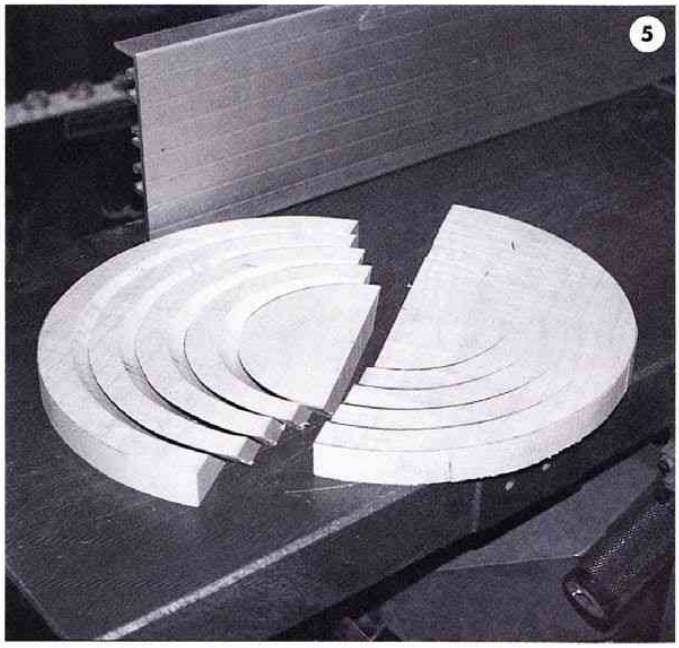
1 Start with a piece of timber 150mm by 25mm by 600mm long. Plane and thickness this accurately on both faces and one long edge.

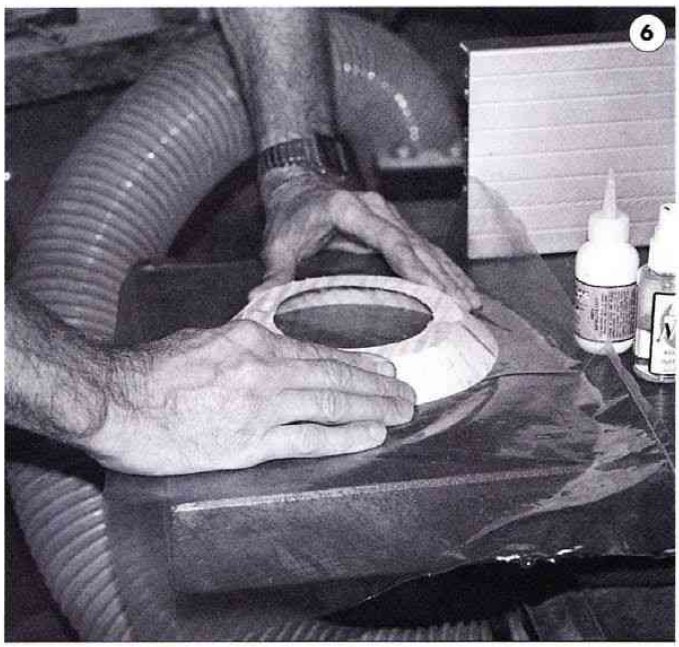
2 Cut the board in half and clamp the two halves together along the long edge. Find the centre and draw as

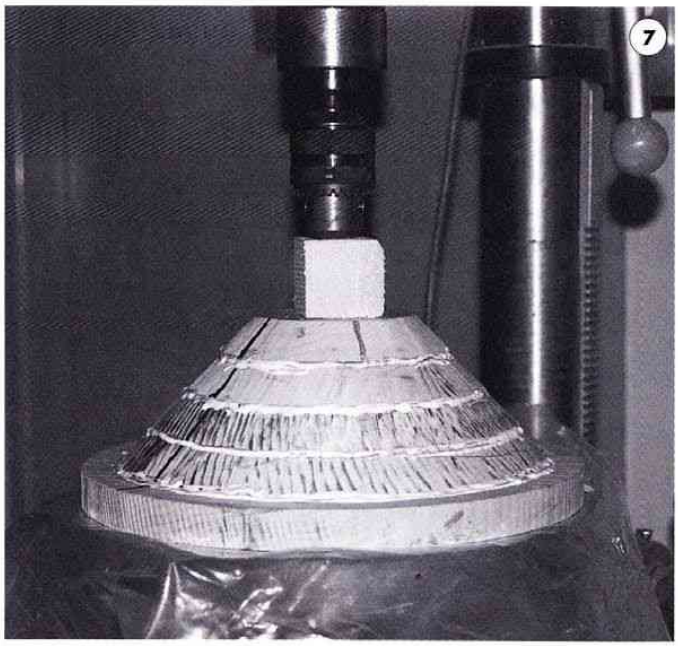












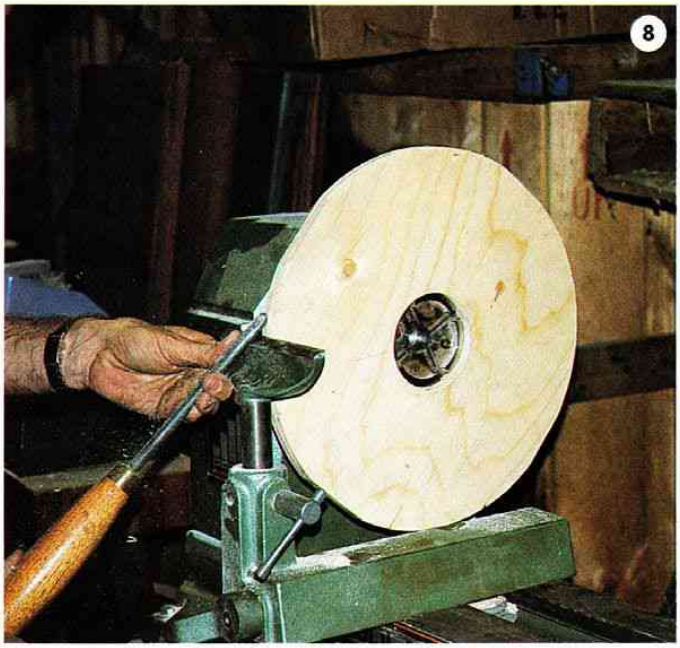
large a circle as possible with a compass. From this large circle measure and mark inwards four 20mm increments and draw circles at these points.

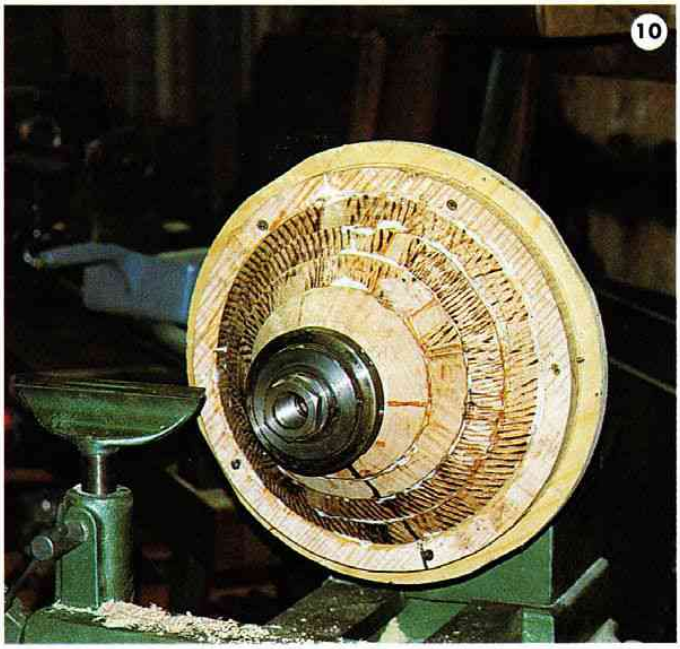
3 Set your bandsaw table to 45° and cut along the pencil lines. Use a sharp blade and take adequate safety precautions.

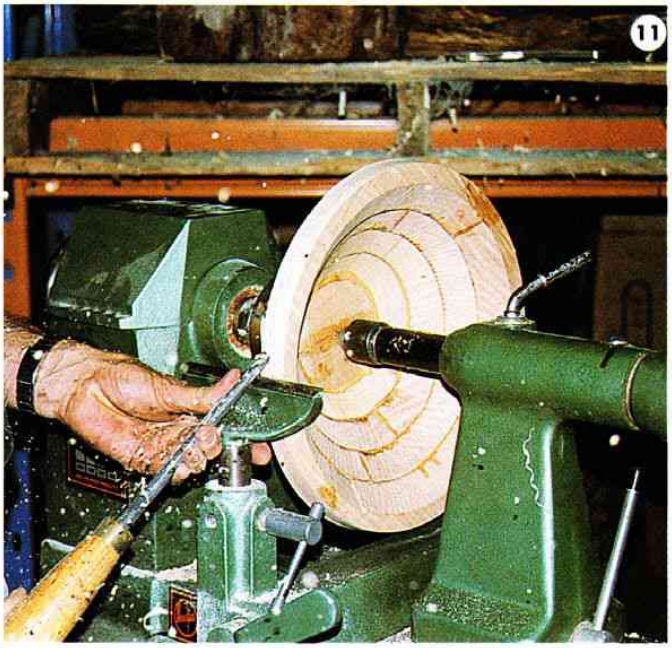
4 Cut the last piece with the outside at 90°.

5 You should now have 10 pieces of timber ready to be assembled.

6 Carefully clean up any burrs from the bandsaw and, using superglue, glue matching halves together on a flat surface. PVA can also be used for this, however the clamping required may be difficult. Superglue, on the other hand, sets almost immediately and the segments can be held in place with your hands. (Note the sheet of plastic to protect machine surface. Although not shown it is advisable to wear protective gloves when using Superglue and have good ventilation).







7 Clean up the circles to eliminate any glue residue and if necessary lightly plane the joints flat. Stack the pieces to form an upside-down bowl off-setting the joints to strengthen the structure and add to its appearance. Mark a line along the stack to ensure the segment order is maintained during glue-up. Apply PVA to each circle in turn, check for correct alignment and clamp the blank using either weights, the lathe, clamps, or as shown, a drill press. Allow glue to dry overnight.

8 Mount a plywood disc on the lathe (I drill a hole in the plywood and mount it in a scroll chuck.) True up the disc.

9 Remove the disc from the lathe and mount the bowl blank on the disc, ensuring it is accurately centred. I drill six holes and fix the blank with wood screws. The screws are fixed on an angle, which allows the holes to be later turned off without losing any depth from the bowl.

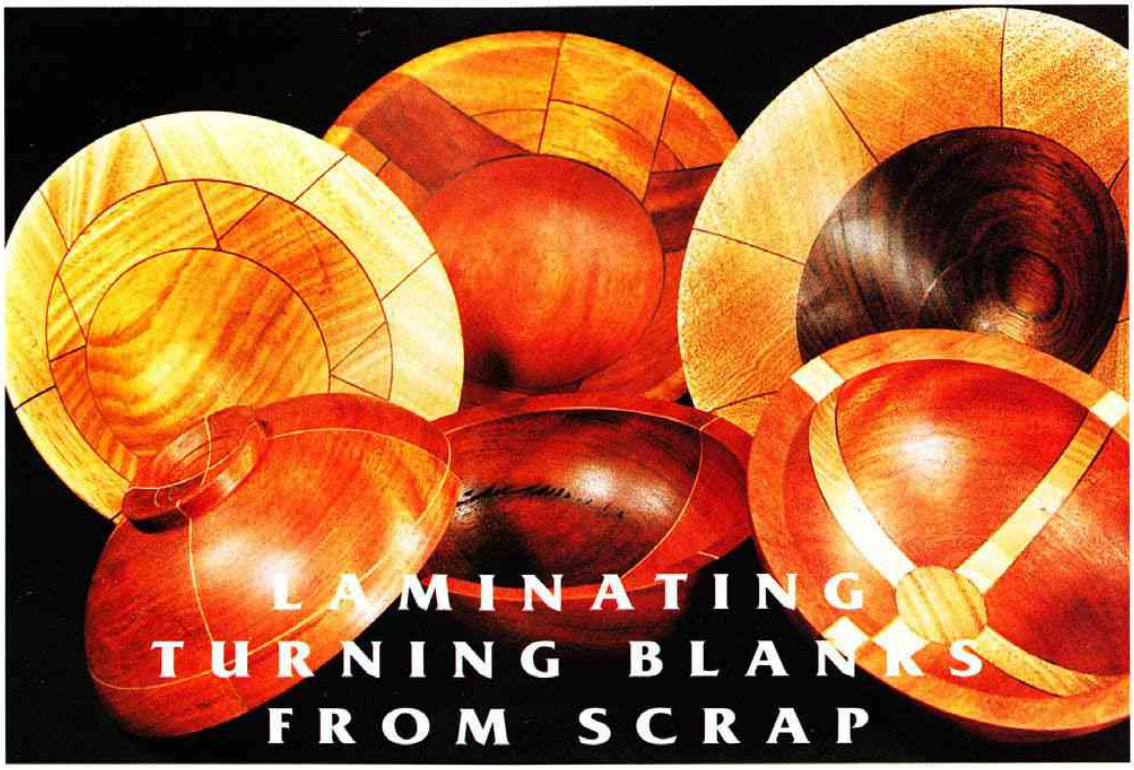
10 Mount the disc with the affixed bowl blank on the lathe and turn a shallow opening on the base to accept the scroll chuck. Attach the scroll chuck to the bowl blank.

11 Re-mount the blank on the lathe with the scroll chuck and, using the tailstock for support, begin turning in the usual way. I turn the outside first, then the inside, after which I re-mount the bowl to clean up the base.

Once completed you will appreciate the variations that are possible. By altering the angle of bandsawing from 45° different shaped bowls can be made while alternating different timbers in the stack will create a dynamic effect. Within the constraints of timber size, glue strength and your skill there are also endless bowls of various diameters that can be turned. What, for instance, would happen if you begin with a piece of timber 300mm x 45mm x 1200mm?

This project was inspired by Dale L. Nish's book Creative Woodturning.

By Andrew Potocnik



LAMINATING TURNING BLANKS FROM SCRAP

Recycling your timber offcuts into laminated turning blanks is a satisfying way of creating large and interesting stock while making the most of your timber resource.

When laminating, I like to highlight the fact that wood has been joined rather than trying to make it look like one big piece of solid wood. It's nearly impossible to totally disguise a glue joint, so I usually laminate a piece of contrasting veneer into the joint to highlight it instead.

I generally use veneers that I've collected over the years, mainly scraps, but you could cut your own veneers. Varying thicknesses add another design dimension.

Woodturners usually cut their turning blocks from square blocks of wood, leaving four triangular scraps. Photo 1 shows how these pieces can be rearranged and made into a small block which can be turned. Consider how you line up the grain and try to use this as a feature.

Gluing intersecting lines can be a problem as the wood tends to slip a little when being clamped. Simple jigs can overcome this problem, however an alternative is to intentionally off-set the lines to create a pattern.

Plane or sand each surface to be glued. I use a shop built disc sander attachment that I've made for my lathe. To check for flatness, hold the two pieces you're joining up to the light. If you can see light through any part of the joint, resand. If you can't correct the surface, use an epoxy resin glue, such as Araldite, which acts as a gap filler and adhesive. Note that the resulting thicker glue line may look unsightly on light coloured timbers, but will not be as noticeable on darker timbers.

Photo 2 shows the two halves. One is ready for gluing, having been sanded flat on the joining faces and marked so that the parts and positions cannot be mixed up. I've also cut a couple of notches to provide a flat surface for the clamps to fit into. Pieces marked 'A' show the sections that are yet to be removed.

Photo 3 shows one half glued and clamped. The glue that has squeezed out along the join indicates that the faces are meeting correctly and it's only excess glue being pushed out. Be sure to cover each face fully, spreading the glue over the full surface to ensure proper bonding. I've used PVA glue which I find sufficiently strong for this type of work. When tightening the clamps, don't overdo it, or else you run the risk of weakening the joint. You will notice that I've also written the time of clamping onto the wood. If you're gluing a series of blocks, this helps you to know when they're ready to be unclamped.

Once dry, sand the faces that will be glued next, cut your veneer, cover the faces that are to be joined and clamp together. Photo 4 shows the block clamped together. Note that I've cut new notches for the clamps to fit into. I also decided that I would create an elliptical line around the perimeter of the bowl. To do this, I cut a diagonal line through the block and glued in a piece of veneer (see photo 5). You will also notice that the vertical lines do not meet perfectly, reinforcing the point I made earlier about the problems associated with movement while clamping.

Safety

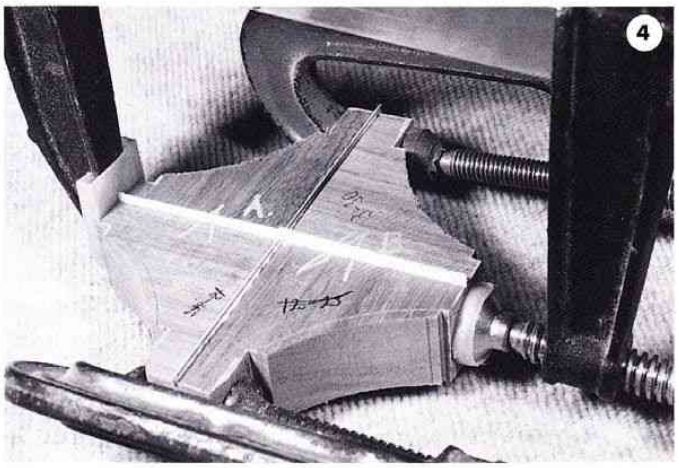
Be certain that all joints are thoroughly glued with a sufficiently strong glue before attempting to turn it. The centrifugal forces generated by a lathe at high speed can be enormous and a bad glue joint may not be capable of standing up to this force.

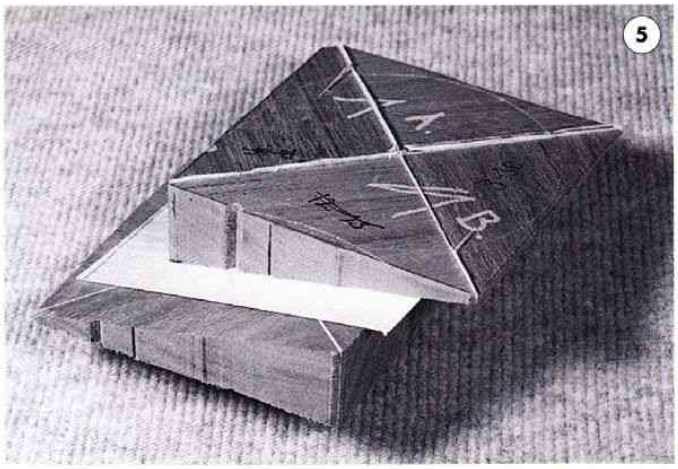
The Turning

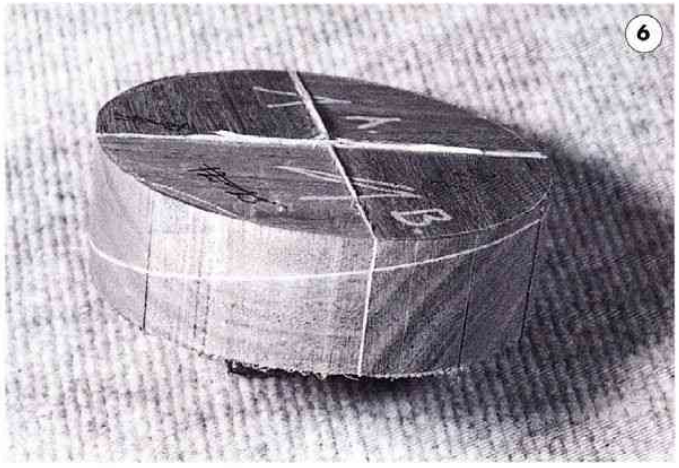
Turn your blank in the usual way. An easy way to mount the blank is to attach it to a carrier (a piece of scrap timber screwed onto a faceplate) using heat sensitive glue or double-sided carpet tape. To locate it on the carrier, line up your tailstock centre with the hole formed by the compass when marking a circle on the blank (see photo 6). Apply a series of dots of hot glue to the carrier and press the blank into position. Wait a few seconds for the glue to cool and set and you're ready to go.

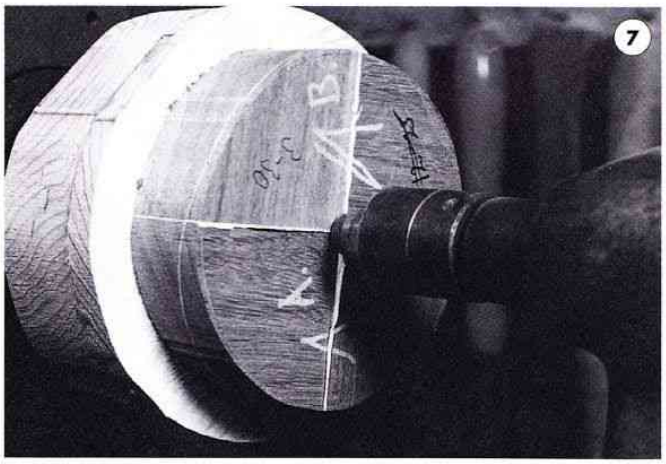
Turn the outside of the bowl through to its finished state, including a clearly defined foot or base. Once completed (photo 7) lever the bowl from its carrier using a chisel. It is now ready to be reversed and remounted.

The carrier used for this stage is made from the one used previously, into which you cut a rebate, just a whisker broader than the diameter of the bowl's foot (photo 8). Apply really hot glue to the rebate and press the bowl into place. If all has gone according to plan, the bowl should be perfectly centred and firmly fixed. Hollow out



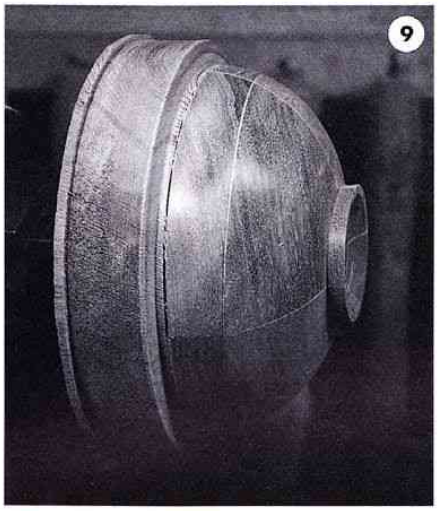






the inside, keeping in mind that it is sometimes worth supporting the bowl with the tailstock while removing the bulk of material (photo 9).

Once shaped, sand the bowl and remove it from the carrier. If you've used glue sparingly, it should be possible to remove the bowl by pushing your thumbs between it and the carrier and gently pushing the bowl away. If this doesn't work or the bowl is too thin to allow this, then part it away from the carrier. A little hand sanding to remove any leftover scratches, and the work is ready for you to apply your favourite finish.



The final outcome of your laminations will vary depending on whether you planned ahead and created precise symmetrical patterns, or glued up more spontaneously. Patterns can be based on timber grain, colour, segment size and shape.

If you're not already an exponent of full-scale segmented work you may now be tempted to explore this technique further.

By Linda Nathan

1

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JEANNETTE REIN: LOOKING THROUGH WOOD

Jeannette Rein's sculpture is all about expressing the nature of the medium itself. 'What I'm really trying to do is look through the wood', she explains. 'I look at each piece of wood and try to think how best to express what's in there'.

Much of what Jeannette Rein does is a redefinition of terms and techniques. Her solo exhibition in 1995 at Fremantle's New Collectables Gallery was titled 'Treen of Trees'. From the Celtic, meaning 'made of wood', treen was the term formerly used to describe all manner of woodware, mainly of the functional domestic kind. Rein's 'treen' is not only made of wood, it is totally dedicated to expressing the nature of the wood, to 'allowing exploration from all angles'. She likes the organic feeling of wood and 'admires the evidence of the tree's history' which she refers to as its 'language'.

'Silhouette', made of sheoak and steel represents an exploded view of the entire history of the tree, wherein all its markings are rendered visible at once. The surfaces of her wall sculptures are smooth but highly textured with marks and perforations which are all carefully plotted in the early stages of construction. This delicate filigree is incorporated 'so you can look through the solid work', says Rein, 'I'm also trying to work with negative spaces as well'.

Jeannette Rein has studied textiles, ceramics, printmaking, painting, jewellery and sculpture. Of late she has 'scaled up' her work with her technique of sculptural wood laminations and is attempting to market it to public and private corporate bodies.

The plan is working, however by her own admission, the economy is currently not working on her side and supplementary sources of income are needed. She teaches jewellery making part time at Balga TAFE and also does stints of relief teaching at local high schools, work which she says, keeps her well grounded. Still, she maintains, 'you have to keep putting

1 'On the Wing', wall sculpture, holly, leaf banksia. 480 x 730 x 160mm.
2 'Butterfly', blackbutt, laminated, perforated, carved, 930 x 480 x 270mm.
3 'Silhouette', (detail) sheoak, 292 x 610 x 122mm.
4 'Scroll', pine wall sculpture, 1210 x 1100 x 860mm.
5 'Parchment', wall sculpture, recycled pine, 430 x 760 x 180mm.
6 'Journeying', (detail) bowl, laminated jarrah, 410 x 460 x 190mm.
Photos 1, 2, 5, 6: Alex Rogoysky Photos 3, 4: Barry Williams

your work under people's noses—eventually they'll notice you'. The most important thing is, she says, to have your own style, to have something different to offer, so that what you are selling is the work, rather than yourself. Rein's attitude to marketing her work is forthright but it is still the actual process of making that counts the most to her.

To explore her medium Rein 'dissects' the wood by bandsawing it along the various 'flow lines and faults'. The timber is sectioned from the bark to the heartwood like living tissue. She then decides how many 'centre sections' will be visible in the form. The pieces are paired and matched and a flow determined for when they are glued or laminated back together again.

The squiggly perforations and markings are drilled and burred out of the wood with a pendant jewellers drill. The steepness of the stepping of pieces determines how acute the curves will be. Each face is sanded on a linisher before being glued and clamped. The creation of seemingly random moving forms is actually highly orchestrated through a time consuming process.

The entire surface is sanded to 400 grit and then finished with Rein's own redefined 'French polishing' method. Nitrocellulose lacquer is sprayed on and rubbed back, with sometimes periods of days between coats to achieve a deep, hard finish which permeates the wood, rather than resting upon its surface.

Rein uses sheoak, banksia and even recycled timbers such as the brick pallet pine stripping in 'Scroll', a wall mounted sculpture which is 1210 x 1100 x 360mm. The wood comes from the forest floor, and even from wood heaps. She says salvaged wood and firewood are great sources. I've often visited people and gone home with a load of their firewood in my boot'.

Although the wood itself is her primary source of inspiration other outside influences also come into play. For example, at one stage her workshop was home to a nest of swallows. Rein claims a series of works produced at that time had a very 'flighty' feel to it. The immediate environment is also an important influence. Time spent watching the ocean, looking at the ways trees grow, looking at natural land formations and river flows and other natural representations of line and form all percolate into the final forms.

Jeanette Rein's work can be seen at New Collectables Gallery' in Fremantle, the 'Forest Heritage Centre' at Dwellingup, 'Framed' in Darwin and Beaver Galleries in Canberra.

WOOD NEWS

Small But Powerful

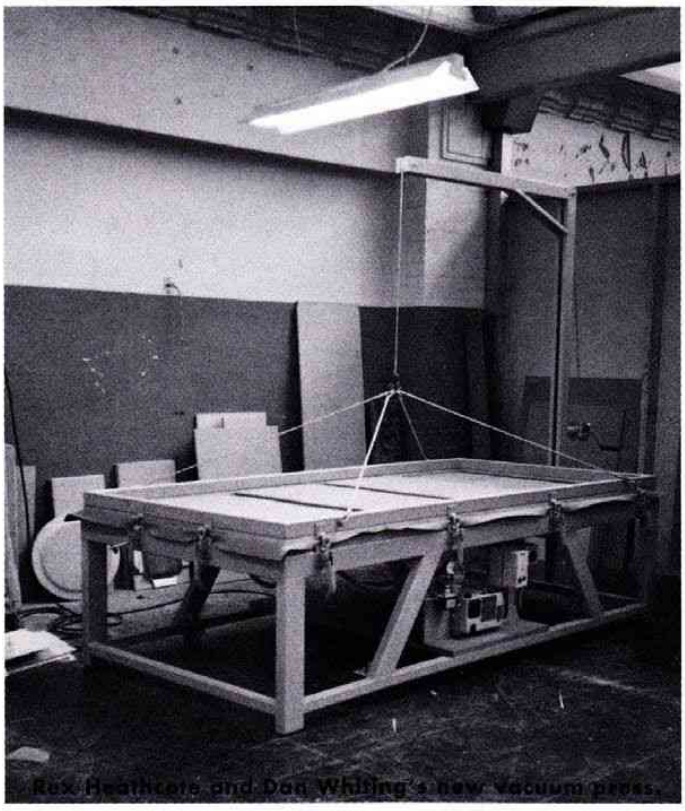
A new woodcarving tool has been released by West Austalian company Arbortech. The **Mini-Carver** is a 50mm diameter toothed cutter which attaches to an angle grinder via an extension arm. The tool offers fine control sculpting and should appeal to carvers, sculptors, model makers or anyone doing detailed cutting. It comes packaged as a kit with two resharpenable blades and extension arm and retails for $95.

For retail outlets contact Arbortech on (09) 249 1944

The new 'Mini-Carver' from Arbortech.

Save Your Peel

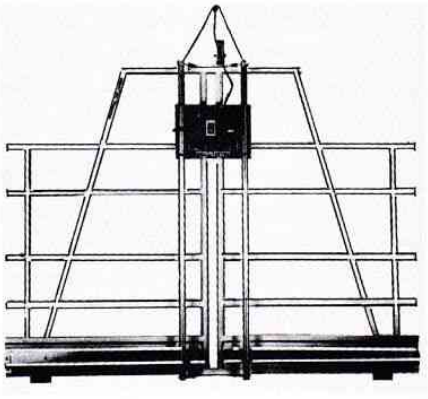
Next time you peel an orange, spare a thought for the potential of the oil seeping from its skin. **Orange Oil** nourishes, cleans and polishes wood and contains many of the trace elements found in wood. As it is 100% non toxic it is ideal for sealing bowls, boards and utensils which come into contact with food. Applied on its own or combined with lubricating beeswax and the resilient properties of carnauba wax it provides an ideal wood and furniture treatment. Both Orange Oil and its companion **Feed n Wax** are distributed nationally by Howard Products, ph: (067) 669933.



Rex Heathcote and Dan Whiting's new vacuum press.

Well Pressed

Two highly experienced Tasmanian woodworkers have developed their own rigid bed vacuum press for veneering and laminating. Their machine will accept any size up to 2400mm x 1200mm and offers fast and permanent bonding for anyone needing professional quality pressing. Contact Rex Heathcote or Dan Whiting for price and other details on tel/fax (03) 6343 4780.



The SSC vertical panel saw.

Power To The Left-Handed

The left handed revolution has begun with the introduction of the first Australian-made left handed lathe. Developed by Greg Bailey of McDonald Road Hardware in conjunction with Victor Verrecchia of Vicmarc Machinery, a limited number of the lathes are currently on sale in Brisbane. The VL 850 LH is a fully functioning lathe adapted with the headstock and tailstock on the opposite ends of a right handed lathe. Further information is available on (07) 3283 1558.

Go With The Flow

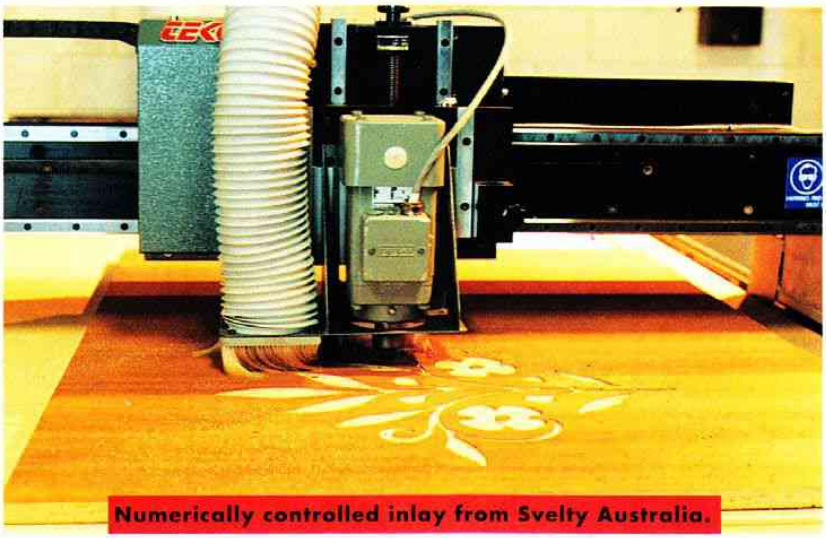
Unlike standard panel saws which tend to fight gravity, vertical panel saws use gravity as an aid. Panels are slid onto the frame, cut and slid off along the roller carriage. The sawing unit can be turned for either crosscutting or ripping and naturally dust extraction is catered for. Woodman Group are the agents for the **SSC Panel Saws**, (03) 9885 6104, (02) 9708 3233, (07) 3844 4433, (08) 8346 4561, (09) 272 3844

Not Useless

Utilitarian works reflecting fine craftmanship, innovation and personal expression are required at the San Antonio Museum of Art for the American Association of Woodturners second

international exhibition in July 1997.

The deadline for submissions is February 14 1997, so send up to four slides to: Rick Mastelli, Editor, *American Woodturner*, RR1, Box 5248, Montpelier, VT, USA 05602



Numerically controlled inlay from Svelty Australia.

Show Off

A new gallery on Queensland's Redcliffe Peninsula provides an exhibition and sales oppportunity for woodturners, woodworkers and furniture makers. The gallery adjoins McDonald Road Hardware and will also house the shop's new mail order business. For further information call: (07) 3283 1558

Extendable Lathe

Just when you thought your lathe had it all a new model comes on the market. Four new features have been incorporated into one of the latest additions to the world of lathes with the release of the **Nova 3000**. The lathe features a cast iron bed, a new swivel head, a variable bed length which can be extended with the addition of extra bed sections as required. The lathe is currently being stocked by The Woodturning Centre (02) 9938 6699, Gregory Machinery (07) 3844 4433, Trend Timbers (045) 775277, Malvern Machinery (03) 9885 6104 and MIK International (08) 8333 2977.

Made by Uncle Sam

The **Porter Cable** range of routers, made in the US and world reknowned for extremely high production standards are now being exclusively distributed by Carba-Tec. Four routers are available including a gutsy 3.25hp, a 2.5hp, a smaller 1.5hp and a versatile laminate trimmer featuring 30,000 rpm. Competively priced and now available from Carba Tec 1800 658 111.

Weekend Carve-In

Numbers are limited for the Doncaster and Geelong Woodcarving Clubs 'Carve In', April 11-13. at the Geelong College, Newtown Victoria. Demonstrations and activities for all skill levels will abound. Applications are available from Bryan Thompson, 9 Rangeview Crt, Viewbank 3084 and close on March 10.

Machined Art

Computerised routing accurate to 0.1mm (over the size of the router table of 2.8m^2), can be applied to profile cutting, surface shaping and inlaying. Barry McCarthy investigated laser and water cutting technologies before developing the software currently being marketed by **Svelty Australia**. Artwork is scanned into the computer and then downloaded to the router. For information tel/fax 09 437 1996

Sell, Sell Sell

A family business operating for over 75 years in value added forest products, **Neville Smith Timbers Pty Ltd**, was awarded the Governor of Victoria Export Award for its contribution towards developing overseas markets. Its strategic marketing of Victorian oak as a furniture and homebuilding product to Japan has lead to a 2500% export sales growth in the past 5 years.

Movements

One of Victoria's best specialty timber merchants, **Adams Timber**, have moved to: Factory 2, 80-86 Canterbury Rd, Kilsyth Tel (03) 9761 8688 .

Altendorf Australia (NSW) have moved to Unit 1, 50 Bentley St, Weatherill Park, 2164, tel (02) 9756 6669, fax (02) 9756 6776

Staying Sharp

CMT, an Italian Company, reputedly world leaders in the manufacture of extremely high quality drill and router bits are now distributed here through Carba-Tec. Router bits are teflon painted bright orange for safety, individually machined for perfect balance and use micro-fine carbide for extra sharpness and edge longevity. Router bits are available separately or in handsome wood presentation cases, a thirteen piece boxed set sells for $338 and a six piece set for $190. Phone 1800 658 111

Between Capitals

The 1997 Australian Wood Design Exhibition is on again in the idyllic setting of Orbost which is centrally placed between Melbourne, Sydney and Canberra. Bringing together woodworkers and the hardwood industry to promote Australian hardwood timbers and design, entries are this year restricted to those using more than 75% Australian hardwood. A separate category exists for recycled timber designs. After an initial showing in Orbost the exhibition will move to the Meat Market Craft Centre in North Melbourne. Tel 051 540 126/051 541 773 or write to PO Box 626, Orbost, 3888.

Winners and Losers

The Woodcraft Guild of ACT's recent annual exhibition saw George Ingham, Damon Lewis, Paul Boxsell, Bob Edwards, Gary Hovey, Peter Coombe, Arend Ebelt taking out first prizes in various categories.

Machine Combo

A new **Felder** combination machine has been released. The BF631 fea-

tures a 310 mm planer, thicknesser, spindle moulder and 800mm stroke sliding table. Tel (03) 9801 7728

Mid-Range Release

Hailing from the Czech Republic, **Pilana** have been engineering woodworking tools since 1934. These mid-range tools promise affordable quality. Tech Sales are looking for distributors for the complete range. Phone Tony Lemon: (03) 9879 2266

Timber Exotica

Exotic new timber stocks such as snakewood from Surinam in South America; black ebony from Sri Lanka and African blackwood from the grasslands and savanna of East Africa are now available in Sydney. **Trend Timbers** also have stocks of Brazilian walnut and mahogany, American white oak, Canadian rock maple and European beech. Ph (045) 775277

Furniture Fair

The third 1997 **Malaysian International Furniture Fair (MIFF '97)** has attracted 200 manufacturers of furniture to exhibit their wooden, rattan, plastic and metal furniture over 22,000sq metres in Kuala Lumpur in March (4-7) 1997.

The past decade has seen a boom in the industry as it has risen from its place as a cottage industry exporting RM27 million to now providing an economic pillar for the Malaysian economy with exports worth RM2 billion.

Rubberwood furniture has provided the basis of Malaysian furniture exports and 75-80% of the country is still covered in forest. In addition there are about 1.6 million ha of rubberwood or *Hevea brasiliensis* plantations This light hardwood provided 80% of exports in 1995.

Under the Government's new economic plan the industry has been given priority for ensuring sustained manufacturing growth. The plan includes provision for RM 2.5 billion to be spent on forest management activities such as the establishment of about 1.5 million hectares of forest plantations, while 153,900 hectares will be planted with rattan under natural forest conditions and in rubber plantations as an intercrop.

Snakewood

The US, Japan and Singapore are the main buyers of Malaysian furniture with the UK, Australia and Taiwan increasingly interested. For further information contact the Malaysian Furniture Industry Council (603) 780 8275 /780 8277 or fax (603) 781 0355 / 783 5541 or visit the website of the Malaysian Timber Council where the Malaysian FIC has its own home page. This provides detailed information about MIFF '97, as well as registration and accomodation booking forms. The website address is http://www.mtc.com.my.

Multi Cutters

Versatile new cutters are available from BJR. Coming as a boxed set of five they will cut wood plugs for concealing screw heads and the like, round tenons and dowels up to 75mm long. The half inch shanks do need rigid mounting in a drill press or mortiser. Call BJR Australia on (043) 966 112.

Plane Talk

Last issue's review of the Ashby plane prompted a response from the maker, who wrote to us afterwards: 'The weight and size of the tool are design factors. The mass of an Ashby gives the tool presence and momentum. This, coupled with superb steel (62° Rockwell), keen edge and very low angle (12°) are essential for a super fine cut in end grain work and hard or curly material. To achieve this with absolute control the front bun has been designed for two handed use where necessary, whilst still being comfortable for single handed use such as for chamfering.

'The problem of squareness and loose threads has been overcome. The movement of the blade adjuster gives a silk like smoothness with 32 TPI (not 42 TPI as stated) and tighter fit.'

The size of the mouth has been reduced from 1.75mm (not 2mm as stated) to 1mm. Any finer than 1mm would relegate this tool to that of end grain use only. In my experience the mouth will constantly clog in long grain use if the mouth is any finer.' For more information call (02) 9484 1183 or (08) 333 2977.

CMT tooling.

Car Park Sale

Carba-Tec in 44 Cambridge St, Coorparoo are having a car park sale on Saturday 22nd and Sunday 23rd of November from 8am to 3pm. Selected items will be drastically reduced for clearance.

PRODUCT REVIEWS

HITACHI C7FS COMPOUND MITRE SAW

Wood Review was sent Hitachi's first new C7FS compound mitre saw in Australia to try out. Cuts were made to both soft and hardwoods. Rated at 950watts, power proved quite ample. Cutting pine was absolutely no problem and despite some initial doubts on my part, 50mm thick Australian hardwood was also sliced very smoothly and cleanly with no perceived drop in power at all.

The saw can be used as a drop saw only or extends out on two steel bars to give a cross cut capacity of 175mm, which is ample for most work. The saw will also tilt one way to allow compound cuts—this is easily achieved by loosening a handle and tilting. Compared to some other similar saws the noise level of this machine is low—ear protection is still essential however.

The saw is fitted with a dust bag which rates much like those fitted to comparable drop saws as it is only partially effective. The only way for clean working with this type of saw would be to attach a dust extractor.

The saw uses a 190mm diameter blade of a reduced 1.5mm thickness. The blade performed well, and while less power may be required to drive the thinner blade, it may prove less rugged.

The saw has obviously been designed for easy transport as it has an inbuilt handle and a low weight, which I liked. The saw would be ideal for cabinetmakers and shopfitters, and within the time frame of our tests, could not really be faulted. Price had not been finalised at time of printing but will be around $935 including tax. Call Hitachi on (02) 9666 3274 for details of supply.

Reviewed by James Brook

PORTER CABLE 333 RANDOM ORBIT SANDER

Porter Cable have a high reputation in the USA as manufacturers of industrial quality power tools. A range of their tools have now come onto the market via their newly appointed Australian distributor.

Random orbit sanders eliminate much of the swirl marks inherent in orbital type sanders and so offer a superior sanding finish. This tool uses 125mm (5") sanding discs attached by velcro to the base. Holes in the discs align with dust extraction ports on the machine for quite effective dust removal. The only disadvantage you may find with velcro style disc fixing is the 10-20% extra cost for the discs compared to standard stick-on fixing (discs are around $6-7 per pack of five).

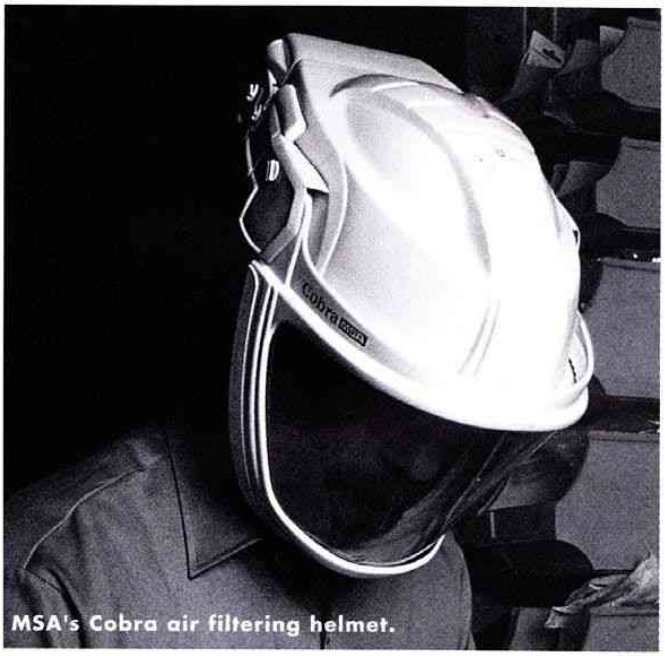
One of the best features of this product is the small diameter orbit produced which is listed at only 2.5mm. We tested the sander in the workshop over a period of a few days on a variety of timber surfaces and found that its performance was quite satisfactory for all the sanding operations undertaken. The rate of stock removal was adequate and the finish produced was clean and smooth.

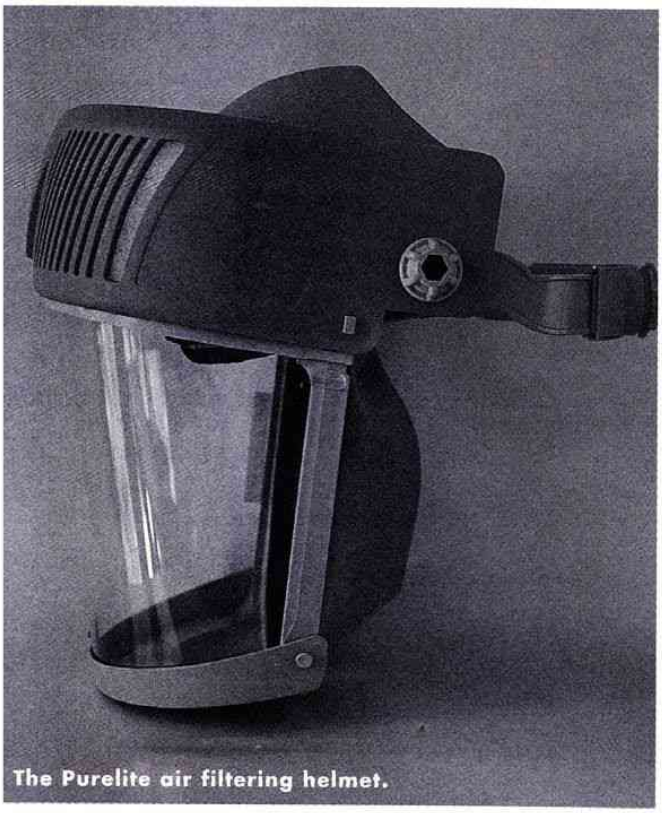
All my other power tools use a cloth bag to collect dust. I generally find these bags become dirty and eventually clog up giving reduced effectiveness The Porter Cable sander, however, uses a cannister made from a foam based material for dust collection which works super effectively. Its easy to empty and stays relatively clean.

The sander sells for around $200 from Porter Cable's Australian distributor Carba Tec 1-800-658 111

Reviewed by Norman Capper

Porter Cable 333 Random Orbit Sander


MSA's Cobra air filtering helmet.


The Purelite air filtering helmet.

New Helmets Reviewed

Two new British helmets have recently reached the market and, as they are at opposite ends of the price scale, it is interesting to see what difference price makes. MSA's Cobra is more high-tech looking than other helmets and has many new design features. Most importantly, it is very comfortable to wear and has high performance ratings with the necessary airflow, face shield impact resistance and low fan noise levels.

Weight distribution is very important when you wear a helmet for most of the day. MSA have placed their batteries at the back and the motor and fan at the front, resulting in even distribution. The fan is placed after the filter in the air flow, so it is protected from dust particles. Most of the problems I have had with other helmets have been with noisy fan bearings, so this should reduce the problem.

The head support is well-designed and doesn't press uncomfortably anywhere. The visor pulls down very easily to seal quickly around the face without fiddling and didn't catch on my glasses. The motor switches on automatically when the visor is pulled down and the face shield can be protected with peel off covers. My only reservation about the face shield is that it is very close to the mouth. If you breath through your nose it is fine, but breathing through the mouth can result in some fogging. It is the most comfortable helmet I have worn and is probably the best designed on the market at the moment. The only obstacle to sales is likely to be the price at $1079.

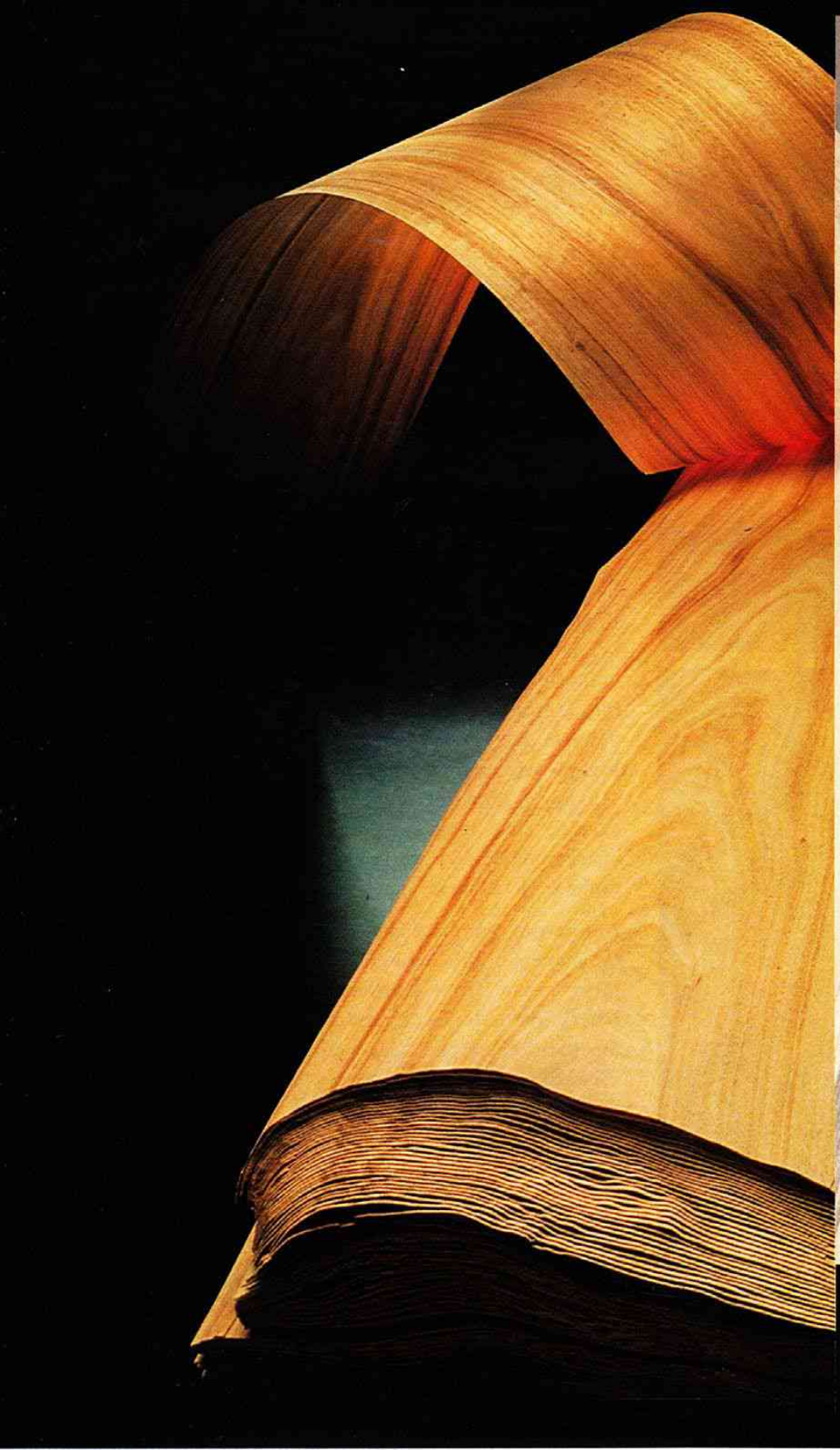
Brisbane-based firm Carba-Tec have introduced their Purelite helmet for $395. It has a quiet motor which delivers a good flow of air through well designed filters. I liked the throat protection as this area is left vulnerable with some helmets. Also, you have a choice of one battery or two, giving two running times of four or eight hours. It's a sensible option for those who are not sure how much running time they are going to need. It also lets you charge one battery while using the other. There is a full range of accessories, such as peel-off shields.

But getting the price down requires cutting corners and the makers of this helmet have done so by placing everything in the front section of the helmet—motor, fan, filters and batteries. This might not be such a problem if the harness for the head could be adjusted to prevent forward slippage, but no matter how I (and some friends) tried, the helmet seemed to slide down on the forehead. However, at much less than half the price the Purelite is worth considering.

By Terry Martin

Cobra Helmet from MSA Australia
Purelite Helmet from Carba-Tec on 1-800-658 111

Sustainable Crown Cut Eucalypt Veneer



Crown Cut veneer is an environmentally responsible choice when specifying timber veneer products.

The veneer process sees a log sliced into around 1,000 individual leaves with a standard thickness of 0.6mm. The unique characteristics of the veneer will enhance the natural beauty of timber doors, kitchens, panels and furniture and can be moulded to fit any shape, making its uses virtually unlimited.

Gunns Veneers is committed to using sustainable timber and $1.8 million has been spent on the installation of Australia's first Staylog Lathe and Centre Sawing System.

This is a result of logging of old growth forests being reduced and Gunns Veneers efficiently utilising the smaller logs produced from younger forests as the resource of the future.

Crown Cut veneer can match the task and transform a room from ordinary to breath-taking.

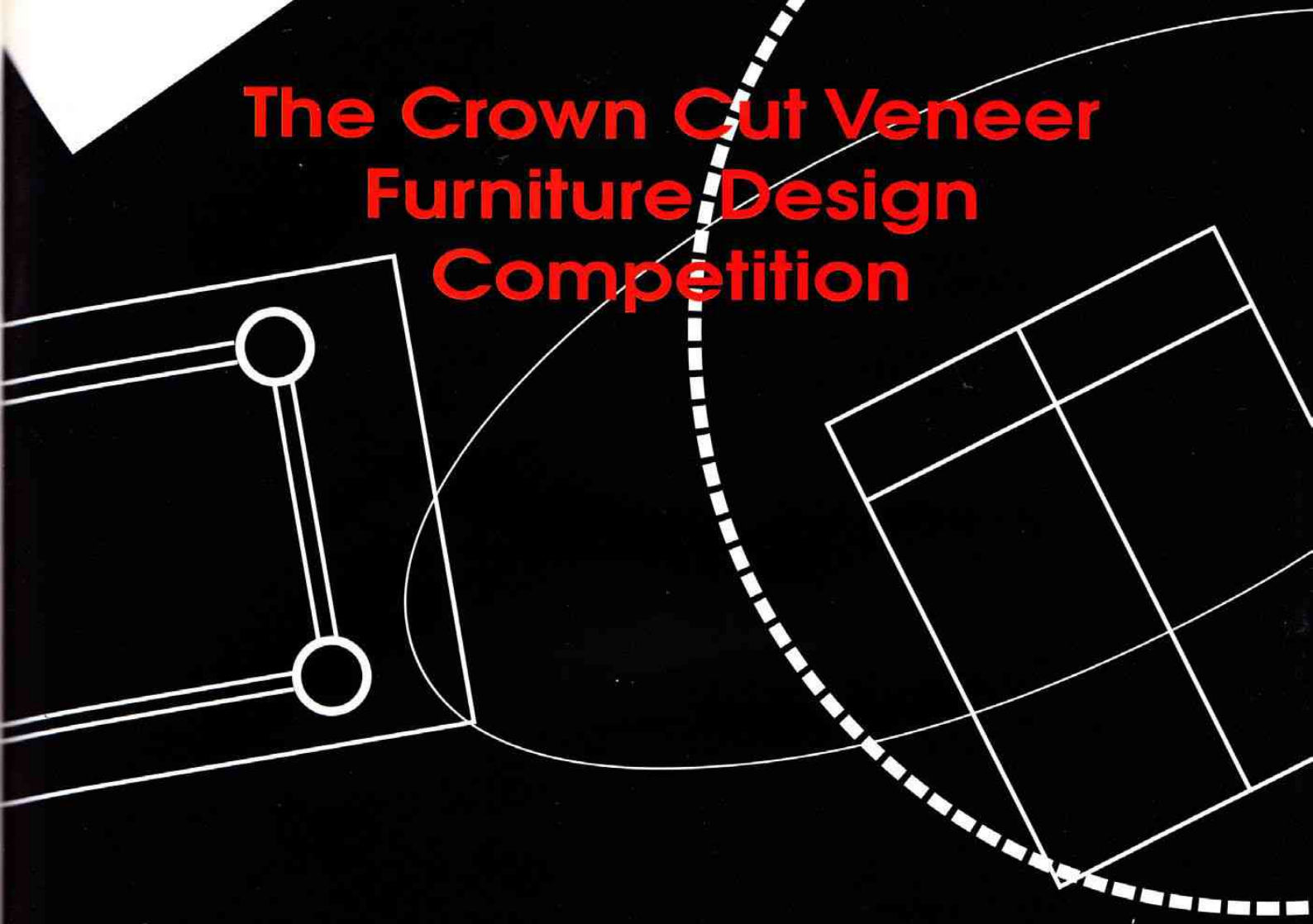
It's a slice of Tasmania's finest eucalypt that's a cut above the rest.

For more information on *Sustainable Crown Cut Veneer* or quarter sliced Tasmanian Oak or Ash, Pinus Radiata, Blackwood and Sassafras or any of our product range, contact:

Gunns Veneers, PO Box 315,
New Norfolk, Tasmania 7140
Telephone: 03 62 613 317
Fax: 03 62 613 207
or any panel laminator in your area.

Gunns Veneers

The Crown Cut Veneer Furniture Design Competition



The aim of this competition is to promote Gunns Crown Cut Veneer whilst at the same time giving furniture makers and designers national exposure.

The competition seeks furniture pieces made by professional makers, designers and manufacturers. The parameters are that entrants will receive one sheet of veneered board (2.4m x 1.2m x 18mm) and they must produce an item from this. The item must display Feature Grade Crown Cut Veneer to advantage and be a practical and commercially viable piece of furniture or cabinet work. Entered items not able to be produced in a production environment will be excluded. Entries can use a combination of veneer and solid timber and the use of smaller amounts of other species for detail work is acceptable, however the highlight timber must be Crown Cut Veneer. Entrants desiring to undertake their own pressing will be supplied Crown Cut veneer as leaf.

The best pieces will be featured in a Wood Review feature in issue 15 and Gunns will select pieces for promotional display at trade shows in 1997.

Two cash awards are available for finalists, being $1000 and $250.

Judging of entries will be from slide format photographs only, therefore all entrants are strongly urged to obtain professionally taken photographs. Whilst photography costs are the entrant's responsibility, Wood Review is planning to have group photo shoots undertaken on specific days in most capital cities.

Entry numbers will be limited, preference given to those registering before January 31, 1997. Final submission is by April 2, 1997.

To register as an entrant and receive guidelines post your business card and one or two images of recent work along with a S.A.E to:
Crown Cut Veneer Furniture
Design Competition,
C/- Australian Wood Review,
435 West Mt Cotton Rd,
Mt Cotton Qld, 4165

"The Crown Cut Veneer Furniture Design Award" sponsored by Gunns Veneers and Australian Wood Review

Entry details from:
Australian Wood Review
tel (07)3287 7088, fax (07)3287 7099

Yours to win...

Sjöbergs Workbench, model 1552. Total length 1560mm, bench-top length 1430, width 660mm, working height 860mm. From Promac (07) 3279 4811.

Australian Wood Review,
435 West Mt. Cotton Rd, Mt Cotton, Australia 4165, or fax to (07) 3287 7099, ph: (07) 3287 7088

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New and existing subscribers are eligible to win these great prizes.

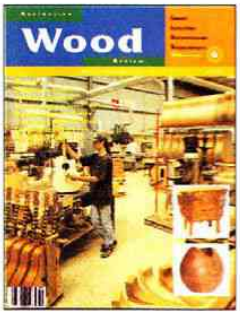
- **Sjobergs European style workbench from Promac.**
- **Freud Saw Blade from Woodman.**
- **Carba-Tec Mini-Lathe**
- **Japanese Z-saws**

Mini-Lathe HM-1A, features 300mm between centres, 75mm over bed, 4 speeds, cam-lock action, cast and machined construction. From Carba-Tec (07) 3397 2577

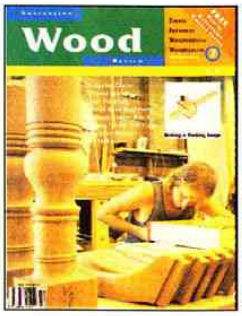
Freud high quality circular saw blade. Features 96 triple chip teeth, 300mm diameter, micro grain carbide, noise reduction laser etching and anti-kickback design. From Woodman Group (02) 9708 3233

These Japanese Z-saws are a delight to use, one is a fine crosscut and the other is a super fine dovetail saw.

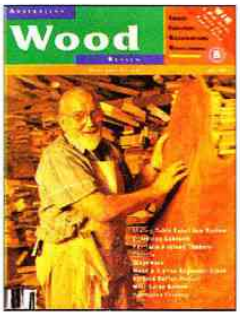
Back issues available



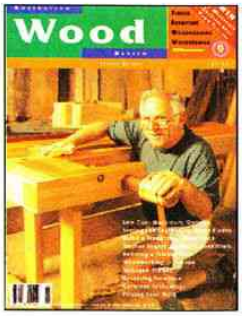
No. 6
Musical instrument making in Australia, timber veneer design , Chinese Furniture, laying a sunburst veneer match, computer design software reviewed, sanding and abrasives, bandsaws, winning at exhibitions, turning natural edged hollow forms, Maton Guitars.



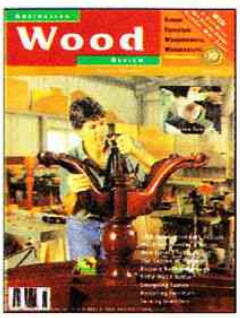
No. 7
Designing chairs, torsion boxes, spray finishing, making a marking gauge, plywood, second-hand machinery, circular saws, education survey, blackwood, Parker furniture, making lathes, gift trade woodturning, computer software, veneering. Free Special Timbers Poster



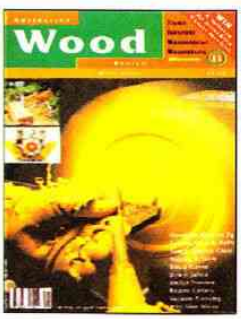
No. 8
Designing cabinets, panel saw review, desert & inland timbers, plantation forestry, Robert Dunlop, mini-lathe review, turning a lidded bowl, Wendell Castle, hingeware, the chisel, history of machinery, mahogany, making a Vienna regulator clock



No. 9
Low cost machinery, planer blades, traditional workbench plans, restoring furniture, building timber decks, Stephen Hughes' turned and carved bowls, Salvaged timber, Woodworking in Europe, cordless technology, pricing your work, oak.

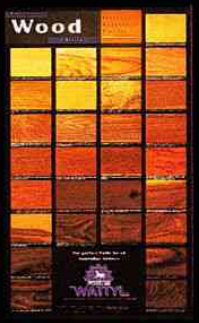


No. 10
Anniversary Australian Woodwork feature, designing tables, buying timber, joining systems, turning jewellery, pedestal table project, mortise & tenons, restoring furniture ctd, mulga turnings, Raffan interview, machine sanding, solid wood joins.



No. 11
Dovetails, router cutters, veneer reference chart, dowel joints, carving claw & balls, making a colonial table, block planes, turned and carved 'winged' forms, AWISA 96, Cook's Endeavour, collecting timber, walnut, tiger myrtle, vacuum pressing, Jah-Roc, MAP

Reference Posters



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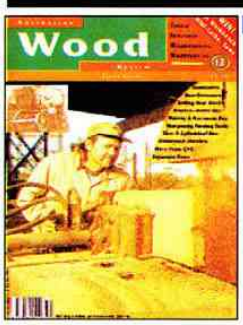
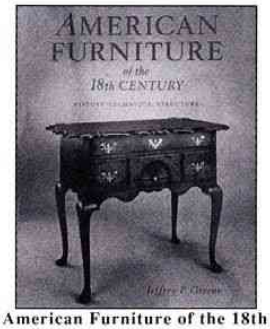


No. 12
Sawblades, dust extractors, routers, document box plans, sharpening turning tools, more from CNC, Japanese saws, distressed finishes, selling your work, sawmilling, Griffith Furniture, teak alternatives, French woodturners, a veneered table top

Subscription prizewinners announced in March 97 issue 14.

Bookshelf

Wood Review's Mail Order Bookshop— There's nothing like a good book!



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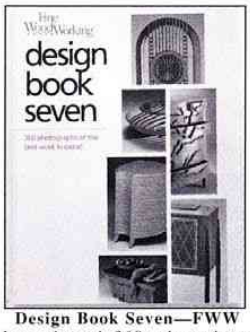
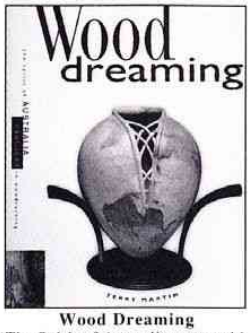


Design Book Seven—FWW Just released, 360 colour photos of fine woodcraft $60+p&p



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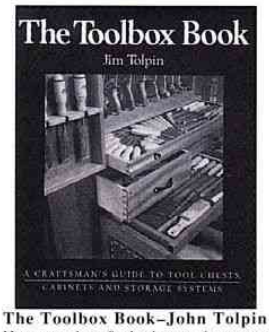

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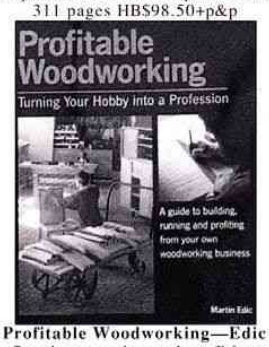

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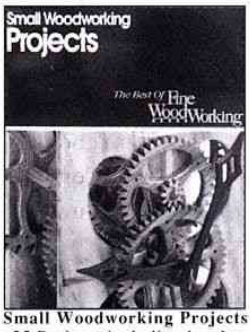
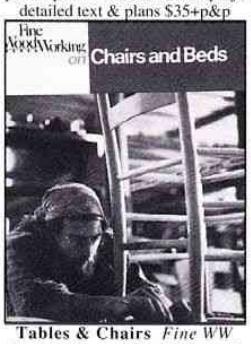
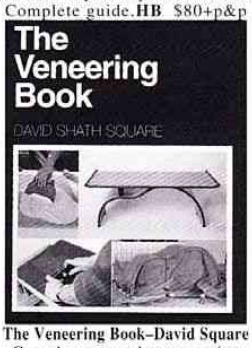


Small Woodworking Projects 25 Projects including bowls, boxes, puzzles, toys, pens, footstool $29.95+p&p

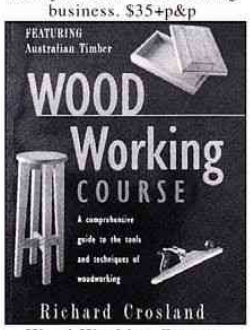
Tables & Desks *Fine WW* All about making tabletops and bases and desks. Includes many plans $24.95+p&p



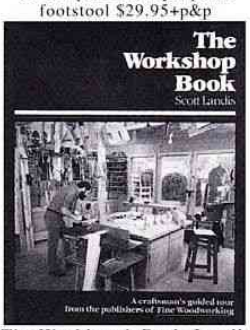
Tables & Chairs *Fine WW* Projects from refined beauty of Windsor chair to solid utility of red cedar trestle table. $35+p&p



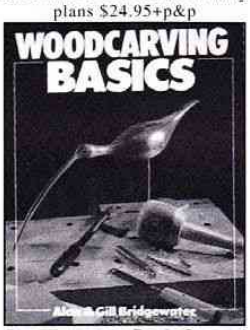
The Veneering Book–David Square Complete manual to veneering practical guide to obtaining beautiful effects. $50.00+p&p



Wood Working Course —Richard Crosland New Australian release $24.95+p&p



The Workbench Book–Landis Benches for all kinds of woodwork 248 pp colour, history,plans, photos HB$80+p&p



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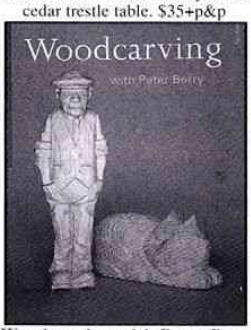
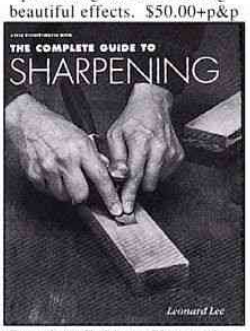


Woodcarving with Peter Berry Projects include from two-to three-dimensional pieces with clear photos. $29.95+p&p



Complete Guide to Sharpening Leonard Lee shows the fastest, most effective ways to sharpen woodworking tools HB $80+p&p

Wood Working Course

A comprehensive guide to the tools and techniques of woodworking.

By Richard Crosland. Simon and Schuster, 1996. 184pp, RRP $24.95

Reviewed by Richard Vaughan

What a pleasure to read and review a book of instruction by someone who is so very clearly an experienced teacher. Richard Crosland started his woodwork classes in 1978, having taught cabinetmaking for three years at Sydney Technical (now TAFE) College. He has since introduced a great number of people to the simple, and the more intricate, pleasures of fine woodwork. It is a measure of his style that he has students who have been enjoying his tuition for ten years or more.

But why another learn woodwork book? In 1991 the publishers noted the vacant niche of a lower price-bracket book with an Australian flavour which would be primarily for complete novices and require minimal equipment.

The resultant book is surprisingly comprehensive, given the breadth of the field of woodworking. And it is indeed a course in woodworking which takes a complete beginner or keen amateur through considerations in setting up a workshop to making a dining table with six drawers.

Topics covered include buying and dressing timber, a chart on 56 timbers (30 are Australian), veneering and glues. The essentials of getting a good edge on various tools, including the cabinet scraper are covered and the section on technical drawing is very useful. The final section, comprising about half the book, takes the reader through seven projects with instruction for those with hand tools only as well as for those with power tools.

You can feel the presence of the genial teacher at your shoulder throughout, guiding you through techniques, anticipating difficulties and constantly demonstrating and elucidating by means of thoroughly intelligible drawings. The projects are ordered to develop tool and construction skills from simple cross halving joints to installing lap dovetailed drawers complete with traditional style drawer slips.

I have very few criticisms to offer. My major disappointment is that although the cover declares 'Featuring Australian Timber' it would be fairer to say just that some are included. There are, inevitably, small and ultimately personal quibbles over technique such as using a pencil to mark out, when a knife would give a cleaner and more accurate result. Or identifying drawer components by marking them on the inside rather than outside where they won't be sanded off prior to assembly.

Overall, however, this is welcome and ideal book for anyone who wants a step by step introduction to quality woodwork.

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WOOD DIARY

1996/1997

23-30 November
Sturt School for Wood Annual Exhibition
Sturt Craft Centre, Mittagong
(048) 602 087

19 Nov-31 Dec
New Turning: Works by Richard Raffan & Terry Baker
Bungendore Woodworks Gallery
(06) 238 1682

21-24 November
Int'l Arts, Crafts & Hobbies Expo
State Sports Centre
Homebush, Sydney
(03) 9751 1901

22 Nov-1 Dec
Wonderful Wood
13th Annual Woodwork Festival & Exhibition
Victorian Woodworkers Association
Doncaster, Vic
Tel (03) 9497 1916 Fax (03) 9387 7135

27-30 November
International Furniture Fair Japan
Tokyo

6-20 December
On Equal Ground
The 1996 exhibition of the Wood Workshop, Canberra School of Art
At the Wood Workshop, ANU
Damon Lewis/ Peter Hill (06) 249 5835

9-20 December
Graduate Students in Furniture Design Exhibition
Box Hill College TAFE
Ruth Collins (03) 9286 9668

1997

13 Dec-Jan 26
Dame Mary Durack Outback Crafts Awards
Queensland Museum, Qld
(07) 3221 5300

4-25 January
Australian Wood Design Exhibition
Browning St, Orbost
Entry forms (051) 541 773

6-17 January
McGregor Summer School
Toowoomba, Queensland
(076) 36 4000 Fax (076) 36 4888

9-13 January
Salon du Meuble
Paris, France

13-19 January
International Furniture Fair
Cologne Germany
(02) 9955 4022 Fax (02) 9955 9872

Jan 28-Feb
Australian Wood Design Exhibition
Meat Market Craft Centre
(051) 541 773

22-27 February
New York Int. Gift Fair
Jacob K. Javits Convention Centre
Tel (914) 421-3200 Fax (914) 948-6180

4-8 March
Malaysian International Furniture Fair '97
Putra World Trade Centre, Kuala Lumpur
Tel 0011 603 780 8275
Fax 0015 603 781 0355

22 March
Strahan Piners Festival
Strahan Woodworks
(03) 64 717017

9-14 April
Eimu—Biennial Exposition of Office Furniture, Milan
Tel +39/2/485921 Fax +39/2/4813580

11-13 April
1997 Woodcarvers 'Carve In'
Geelong College, Newtown, Victoria
Bryan Thompson (03) 9459 4176

18-20 April
Perth Timber & Working With Wood Show
Claremont Showgrounds
(02) 9712 5623

5-10 May
Ligna Hannover
Includes interHOLZ
Germany
Tel (+511) 89-31632

24 May-1 June
National Woodturning Exhibition
Nunawading Arts Centre, Victoria
(03) 9874 7635

23-25 May
Brisbane Timber & Working Wood Show
RNA Showgrounds
(02) 9712 5623

29 May-1 June
International Arts, Crafts, Hobbies Expo
Caulfield Racecourse, Melbourne
(03) 9751 1901

18-20 July
Sydney Timber & Working With Wood Show
RAS Showgrounds, Paddington
(02) 9712 5623

9-13 September
Tekhnoles 1997
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St Petersburg
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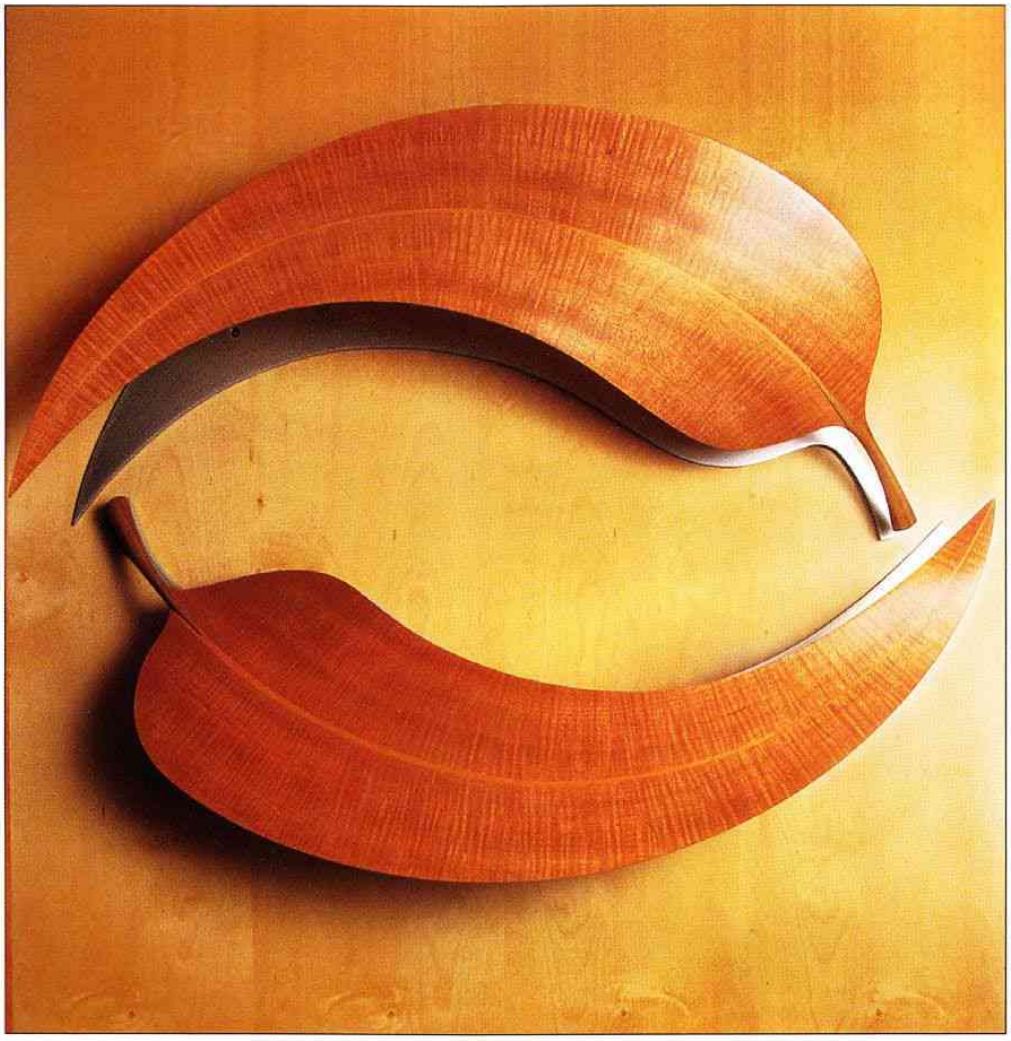

Forestry Tasmania logo by Kevin Perkins

Made in Tasmania, grown by us.

That's our logo crafted in wood by
leading Tasmanian designer, Kevin Perkins.

Regrowth eucalypt veneer across sliced pale sassafras on chipboard.
It's our challenge to all to care for the way wood is used and to add value.

After all, we wouldn't ask for something we wouldn't do ourselves.

Forestry Tasmania

GROWING OUR FUTURE