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FIRST ISSUE

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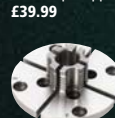
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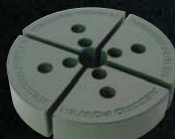
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Here's to another great 25 years of *Woodturning*!

PHOTOGRAPH BY GWC/MARK BAKER



The olive ash (*Fraxinus excelsior*) salad/fruit bowl was something I turned 25 years ago; the other two items were turned in the last year. Looking at things now, I think I have a better eye for proportions and as a result of more turning time, tool control. Once I decide what I want to create, I undertake a lot more research now than I once did



It is 25 years since this magazine first started and I think you will agree that this is some milestone. We thought it would be a great idea to reprint the first issue of the magazine so you can see how things were 25 years ago. I do hope you enjoy it.

Over the year I will be catching up with as many people as I can who were involved in issue 1 of *Woodturning* to get their perspective of what was happening then and how things have developed. I am sure they have seen a lot of things during this time and I am looking forward to talking to them and seeing what they say. I will also be sorting out some giveaways and competitions for you so you have the chance of winning some goodies.

Sharing the passion

I am sure that many will agree that a lot has happened and changed for us over the last 25 years turning-wise. We as a body of people owe a great deal to the turning 'pioneers' who got things moving along. Sadly, many are no longer with us, but their spirit of adventure lives on in us all and we would not be where

we are now without their passion and love of sharing with people. As a beneficiary of many people taking the time to teach, instruct and be there for me as friends, I owe so much to many people. Each and every one of us has had help from someone in some way and I know many are doing all they can to ensure that the passing on of information and time is actively continued.

It is worth pointing out that there are many turning clubs, organisations and symposiums that are at least 25 years old too. I think that this is testament to the love people have for turning and the desire to want to share experiences, learn and be with like-minded people. I will catch up with some of them over the coming issues as we celebrate our anniversary. If your club or organisation is 25 years or more old, then contact me and let me know.

Turning diversity

Things that I have noted since starting turning over 25 years ago is that we are a more cohesive collective of people than we were back then. There were some, but not many, clubs when it all started but look how many there are now around the world. We, as a group of people, are producing a far wider

variety of items than ever before. Another big change for us all is that we have the ability to share information, experiences and ideas, which is easier now than ever before and new ways are becoming available to us all the time. We no longer have to go somewhere to see or talk to someone. The internet has changed that no end. I am happy to say that we have easier access to quality tools and equipment than we ever did and no doubt as people explore further and technological advances come along, we will see even more things become available.

People talk about the world of turning having seen its heyday and it being in a very slow decline, but from where I am sitting looking at what is happening and planned by various organisations and clubs, we are not in decline at all. Yes, we face challenges, but we as a body of people are more than able to rise to those challenges. The future looks to be exciting, diverse and vibrant.

Let me know what you have been up to and I hope that you enjoy the magazine.

Have fun,

markb@thegmcgroup.com



Woodworkers Institute website (www.woodworkersinstitute.com) is thriving. It would be great if you took a look and participated in the various discussions and competitions in our community, or see us on Facebook & Twitter.



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NEWS, LATEST PRODUCTS, MAGAZINE UPLOADS & EVENTS

can all be found on www.woodworkersinstitute.com. These all appear on the magazine homepage and you can see a bigger selection by scrolling down the page and clicking on the individual stories. We also have an extensive online archive for you to browse

Subscribers!

Turn to page 81 for subscription special offers and you could save 30%!

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HEALTH AND SAFETY

Woodturning is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines. All readers should observe current safety legislation.

Conversion chart	
2mm	(⁵ / ₁₆ in)
3mm	(¹ / ₈ in)
4mm	(⁵ / ₃₂ in)
6mm	(¹ / ₄ in)
7mm	(⁹ / ₃₂ in)
8mm	(⁵ / ₁₆ in)
9mm	(¹¹ / ₃₂ in)
10mm	(³ / ₈ in)
11mm	(⁷ / ₁₆ in)
12mm	(¹ / ₂ in)
13mm	(¹ / ₂ in)
14mm	(⁹ / ₁₆ in)
15mm	(⁹ / ₁₆ in)
16mm	(⁵ / ₈ in)
17mm	(¹¹ / ₁₆ in)
18mm	(²³ / ₃₂ in)
19mm	(³ / ₄ in)
20mm	(³ / ₄ in)
21mm	(¹³ / ₁₆ in)
22mm	(⁷ / ₈ in)
23mm	(²³ / ₃₂ in)
24mm	(¹⁵ / ₁₆ in)
25mm	(1in)
30mm	(1 ¹ / ₈ in)
32mm	(1 ¹ / ₄ in)
35mm	(1 ³ / ₈ in)
38mm	(1 ¹ / ₂ in)
40mm	(1 ⁵ / ₈ in)
45mm	(1 ³ / ₄ in)
50mm	(2in)
55mm	(2 ¹ / ₈ -2 ¹ / ₄ in)
60mm	(2 ³ / ₈ in)
63mm	(2 ¹ / ₂ in)
65mm	(2 ⁵ / ₈ in)
70mm	(2 ⁷ / ₈ in)
75mm	(3in)
80mm	(3 ¹ / ₈ in)
85mm	(3 ¹ / ₄ in)
90mm	(3 ¹ / ₂ in)
93mm	(3 ⁵ / ₈ in)
95mm	(3 ³ / ₄ in)
100mm	(4in)
105mm	(4 ¹ / ₈ in)
110mm	(4 ¹ / ₄ -4 ³ / ₈ in)
115mm	(4 ¹ / ₂ in)
120mm	(4 ³ / ₄ in)
125mm	(5in)
130mm	(5 ¹ / ₈ in)
135mm	(5 ¹ / ₄ in)
140mm	(5 ¹ / ₂ in)
145mm	(5 ³ / ₈ in)
150mm	(6in)
155mm	(6 ¹ / ₈ in)
160mm	(6 ¹ / ₄ in)
165mm	(6 ¹ / ₂ in)
170mm	(6 ³ / ₄ in)
178mm	(6 ⁷ / ₈ in)
180mm	(7in)
185mm	(7 ¹ / ₄ in)
190mm	(7 ¹ / ₂ in)
195mm	(7 ³ / ₄ in)
200mm	(8in)
305mm	(12in)
405mm	(16in)
510mm	(20in)
610mm	(24in)
710mm	(28in)
815mm	(32in)
915mm	(36in)
1015mm	(40in)
1120mm	(44in)
1220mm	(48in)
1320mm	(52in)
1420mm	(56in)
1525mm	(60in)

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A selection of turned work by Ray Key

Celebrating 25 years of *Woodturning* magazine

To celebrate our 25th anniversary, we spoke to three key figures in the world of woodturning and asked them to share their stories and experiences over the years



Ray Key

Recently awarded The British Empire Medal for services to the craft of woodturning, Ray Key first started turning in 1965

Ray Key – ‘looking back over 25 years’

Since *Woodturning* magazine started some 25 years ago, the developments of both the craft and the art of woodturning worldwide have been significant. The contemporary rebirth of this ancient old craft started largely in the '70s gathering greater momentum during the '80s. This is when international sharing became the norm: seminars, workshops, national associations, DVDs, publications, tool, chuck and lathe developments, collectors, galleries and museums all contributed to this growth.

A flourishing magazine

The hobby turners from the professions helped fuel an explosion of opportunity for makers and manufacturers alike.

Developments like these sowed the seeds for the publication of a specialist subject magazine that could be commercially viable. Time has proved this to be correct as the magazine continues to flourish to this day.

The technical advancement of equipment has been dramatic: variable speed lathes, self-centring chucks, high speed and powder metallurgy tools, vacuum chucks, jigs of all kinds, laser guides, cameras on tool tips, etc.

It has been suggested that as a contributor looking back, for me, which five elements of change have been the most significant. That's difficult to nail, as there are so many facets but here are my five:

- 1 Variable speed lathes have definitely made the turner's life so much easier. From a





humble bench-mounted small mini lathe up to a state-of-the-art quality lathe, variable speed is available. I am reminded of my early days in the pattern maker's shop where we had a flat belt drive with slipping clutch. My own workhorse lathe for many years was a ¾hp single phase lathe with four step pullies, upgraded to a 1hp motor, then finally a 1½hp three-phase motor delivering infinitely variable speed.

These days, I use a lathe with a 3hp three-phase motor delivering all the power I need, which is instantly variable.

In 1981 Richard Raffan and I travelled together to the USA and concluded at that time that if you combined the best features of the Harrison Graduate lathe with the best features of the Canadian General lathe, then you would have a pretty good lathe. How times have changed.

2 The turner's art has seen off lathe work grow beyond belief. With so many facets employed, the turning element is by and large just the starting point of many works.

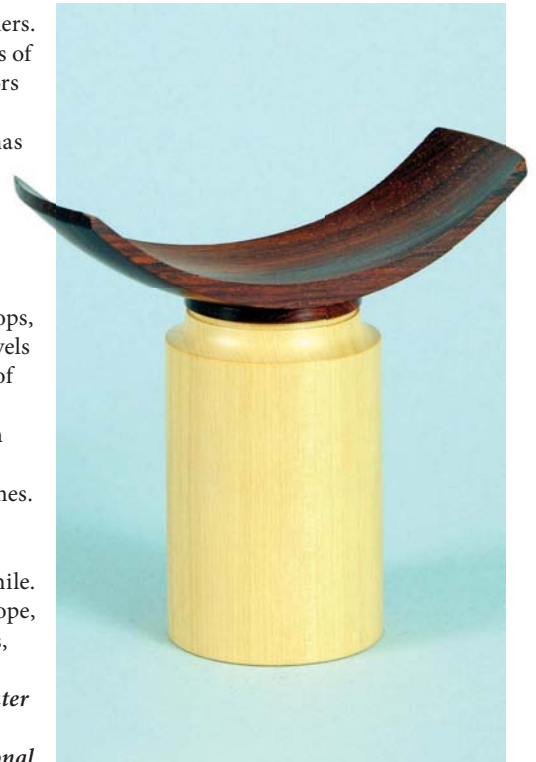
3 The internet has had an unbelievable impact on the turning world and marketing has changed as a result. Makers sell direct from

their websites, as do tool and lathe suppliers. The demise of many a gallery and the loss of a number of big wood shows are indicators along with the recession of the impact of the web. For the most part, the internet has been a positive force, but has plagiarism increased as a result of this?

4 National turning organisations have fuelled the continued worldwide growth of crafts. Most have a local club network, hold international seminars and workshops, etc. International sharing has reached levels that have impacted the craft and the art of the turner in most countries.

5 Museum collections: for most of the 20th century museums largely ignored the turner, but that has changed in recent times. In the US there have been collectors donating their personal collections to museum and art institutions for some while. Now we have museums, certainly in Europe, purchasing and accepting donated pieces, thus lifting the status of woodturning.

Ray will be writing a three-part series later in the year looking back in detail at how turning has changed and sharing his personal stories with us.



Lidded sculptural vessel

Dave Regester – changes in woodturning since 1990



Dave Regester

Dave Regester has been a professional woodturner since 1974, making one-off pieces and production kitchenware

The biggest change in woodturning since 1990 is the same as in the world in general, namely the use of electronics.

They have had a massive impact on all facets of my work. My first articles were badly typed and the photos were all on film. The first editor, Bernard Cooper used to reply to all letters with immaculately hand-written replies and I think that I am right in saying that GMC did not even believe in computers back in those days! Now my many typing mistakes are easily corrected and I can take as many photos as I like before eventually

getting them right, or at least Photoshopped into shape.

Disseminating information

The internet is a well-used tool for disseminating information on technique, although, like much of the content, it is of very variable quality. When I can be bothered to look at it I usually end up shouting at the computer: "Why are you using that tool and why are you doing that so slowly!" It is nevertheless a good way of keeping up with what fellow turners are producing and has given me ideas.

Emails are used instead of letters for communicating, all my orders are sent to me by this means, I am paid by electronic transfer and all my banking is done online. At the equipment level there are more models of lathe available to cover all pockets and needs. Many lathes have variable speed, which is achieved by means of an electronic inverter and this has a huge impact on making turning easier and more efficient.

Tool design

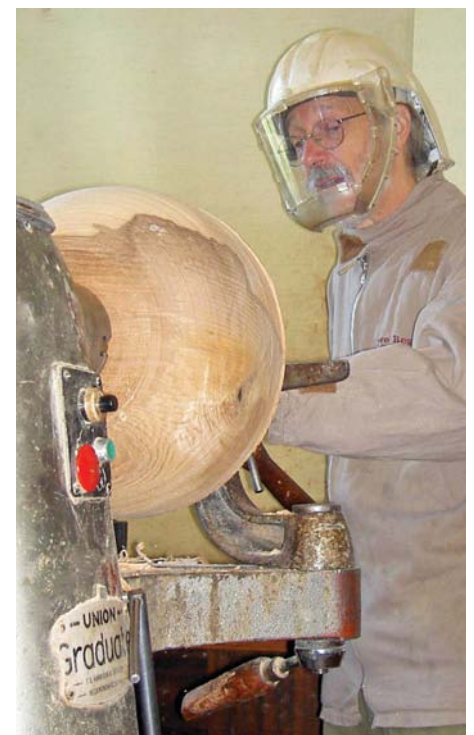
The design of chucks has improved although I still use the four jaw self-centring chuck produced by Axminster Tools & Machinery. The price has not increased by as much as you would expect in 25 years due to the computerised manufacturing process.

There are more types of woodturning tools available now but that is not necessarily a good thing. Just as it was in 1990, most

students would still benefit from learning to use the basic tools properly. The price of hand tools is now approximately 3.5 times what it was in 1990.

Smarter equipment

Most of the clubs that I demonstrate at have cameras trained on me and multiple



Dave at his lathe

PHOTOGRAPHS COURTESY OF DAVE REGESTER



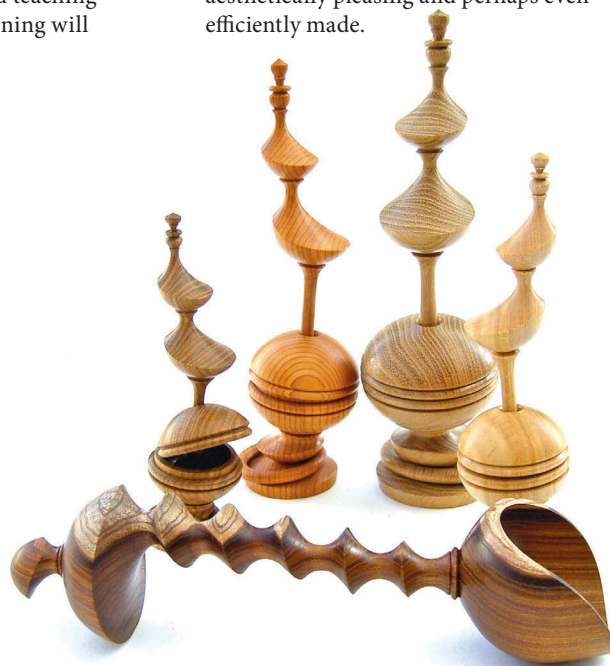
screens so that the members can easily see what they would have needed to stand over my shoulder to see before. They can also hear what I am saying because most now have microphones. None of these pieces of equipment were affordable to clubs in 1990.

Having said that, some things remain the same. For example, most beginners' pieces are as bad as mine were when I began, despite the easy availability of courses, demonstrations and teaching DVDs. I think that woodturning will

always be a skill which requires a lot of practice and that is what makes it so rewarding when you eventually manage to produce a piece which is well finished, aesthetically pleasing and perhaps even efficiently made.



Reconstructed bowl in ash (*Fraxinus excelsior*), 250 × 100mm



Various eccentrically turned items



Ladle in London plane (*Platanus hybrida*), 60 × 220mm



'Dryads 1, 2 & 3', London plane (*Platanus hybrida*), brown oak (*Quercus robur*), and ash (*Fraxinus excelsior*), 125mm long × 200mm long × 300mm long

Richard Raffan – happy 25th birthday, *Woodturning* magazine!

PHOTOGRAPHS COURTESY OF RICHARD RAFFAN



Richard Raffan

Richard Raffan is a highly respected and well known woodturner and is best known for his turned bowls and boxes. He is a teacher, demonstrator and author of a number of classic woodturning books and DVDs

In the late 1980s, critiques at symposiums and workshops in North America, Britain and Australasia got people thinking beyond making nice bits of wood round and shiny. We assessed similar forms in relation to one another, as well as the quality of workmanship and finish. As a result, the overall quality of work and design in the instant galleries, particularly at the Utah and Buxton Symposiums, improved so dramatically that after three or four years, the critiques were abandoned. So when the first edition of *Woodturning* magazine appeared, there was plenty of good quality work around. However, I recall wondering where an editor would find enough interesting copy and images to fill 64 pages four times a year, as there wasn't much variety with turning for the most part, still traditionally based like Ron Kent's translucent bowls in the first issue, or Keith Rowley's stool.

Artistic turnings

In 1990 artistic turnings still tended to be thin bowls displaying some technical expertise and flashy wood, although not necessarily particularly good form. Then, in the '90s, woodturners began to set aside traditions and break the rules. We saw a lot of what was previously regarded as rubbishy wood unsuited to even a fireplace transformed to artsy turnings featuring tool marks, holes and splits. These were certainly different and pointed in a new direction for the craft. At first there was very little carving or colour embellishing the turned forms, whereas today it's the complete opposite and it's easy to find 'turnings' that might have been near a lathe for a few seconds so as to qualify as a turned object, and people spend



Red verdigris pot, part of a quintet

days piercing hollow forms, presumably to show off the thin and even walls they turned.

Craft identity

When the first issue of *Woodturning* magazine was published in 1990, I was 47 and I'd been turning wood for 20 years, during which time woodturning related activities provided all my income. I'd been a craft identity for about 18 years with two books – *Turning Wood* and *Turned Bowl Design* – and one video published and my *Turning Projects* book and video about to be released. Craftwork sales were booming and I could barely keep up with orders for thick-walled jarrah (*Eucalyptus marginata*) burl bowls and salad bowls, most of which sold to tourists through Naturally Australian in Sydney; spending a couple of months teaching in North America and Britain each year didn't help, but it was exhilarating. This continued through the '90s and on to 9/11, after which tourism declined for a few years and wood sales dwindled – but by then I was more than ready for a quieter, dust-helmet-free life, and more time away from my lathe.

Helping others

Since 2002 I've written for magazines, published a few books and videos and continued to teach, mostly in North America,

where I could have been going from one hands-on workshop to another all year. Helping people help themselves is something I enjoy, but a couple of months on the road is more than enough. I still sell a bit to galleries and undertake commissions.

I've rarely had work on consignment and never had to. If work fails to sell within a few weeks, then it's in the wrong environment or the wrong price. If it does sell, galleries can afford to pay on invoice within 28 days and we're all happy.

Down-sizing

Now, in mid-2015, my stock of blanks and roughed bowls is almost nothing and I turn mostly green timber. I've even sold my wonderful Vicmarc VL300 lathe so I can only work small-scale on my VL150. In future, everything I turn will be less than 300mm diameter. I'll make sets of spillikins to add to the over 230 sets I've sold since 1978, the sort of simple thin bowls and end grain boxes that attracted attention in the '70s, and the pots and tubes I've been turning this century since I ceased turning burl bowls for tourists.

By coincidence, my *New Turning Projects* book is about to be published: I think I can guarantee there won't be another in 2040 when some of us might be celebrating *Woodturning's* 50th.

Oak (*Quercus robur*) stacks

“I recall wondering where an editor would find enough interesting copy and images to fill 64 pages four times a year, as there wasn’t much variety with turning”

A selection of boxes in gidgee (*Acacia aneura*), African blackwood (*Dalbergia melanoxylon*) and cocobolo (*Dalbergia retusa*), 2008

And finally, here are my top five things that have benefitted woodturners:

- 1** Self-centring four-jaw chucks introduced in the late '80s have superseded all previous chucks. The best have jaws that enable us to grip small blanks quickly and accurately, without marking a turned surface.
- 2** Bowl Savers. Bowl savers, led by the McNaughton, have saved huge amounts of timber previously wasted while speeding up the bowl-making process.
- 3** Education. The '90s saw a proliferation of woodturning information published in magazines, books and videos. Symposiums and hands-on workshops, particularly in America, further disseminated ideas and techniques and spawned a circus of woodturning gurus travelling and teaching internationally. And we also now have the internet.
- 4** Hollowing rigs have made hollow vessels so easy that I hear turners complaining that thin-walled hollow forms are no longer a challenge.
- 5** Lathes are light-years ahead of what they were in the '80s. Today we even have accurate tailcentres that can be used to support wood in chucks. ●



Richard Raffan at the lathe

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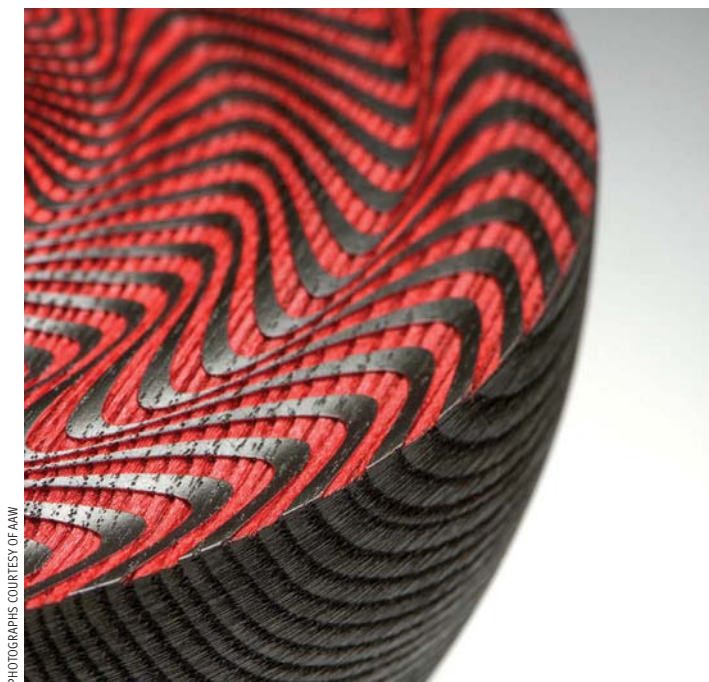
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Round & about

We bring you the latest news from the world of woodturning as well as letters from the Woodworkers Institute forum and important dates for your diary from the woodturning community

AAW calls for entries



PHOTOGRAPHS COURTESY OF AAW

'Onde' by Jérôme Blanc, ash (*Fraxinus excelsior*) and pigments, 90 × 150mm



'Untitled' by Marc Ricourt, wood and pigment, 200 × 200mm



'Apartheid' by Hal Metlitsky, 280 × 190mm

2016 AAW Annual Member Show: 'Turning 30'

The theme for the 2016 AAW member exhibition is 'Turning 30', in celebration of their 30th anniversary. For three decades the AAW annual exhibitions have encouraged members to present their finest work. Sometimes that means new and innovative ideas and techniques, sometimes presenting perfected techniques and classic forms. This is a proud tradition and the AAW is excited to bring that spirit forward into their fourth decade.

The theme is open to interpretation. Certainly turning 30 is a notable milestone, or one could turn 30 of something, or make a piece with 30 different wood species, but a simple yet excellent piece could also reflect AAW's 30 years of sharing spirit.

Two awards will be given during the AAW International Symposium: a Masters' Choice Award and a People's Choice Award.

Entries will be accepted online only from 1 November, 2015–1 February, 2016. The entry fee is \$30 (£19) for up to three entries.

AAW Exhibition: 'Patterns'

The 15,000 member American Association

of Woodturners (AAW) will hold its 2016 annual symposium in Atlanta, Georgia, USA. For its exhibition at this symposium the Professional Outreach Program (POP) committee is once again opening its traditionally invitation-only exhibition to a limited number of juried pieces. Following the noteworthy inclusion of a number of juried pieces in the 2015 exhibition, POP is confident that this move will bring even more new faces and talents to light.

A highlight of the AAW annual symposium since 2007, the POP exhibition has always featured excellent work by an invited roster of both established and emerging artists. Catalogues of previous exhibitions may be viewed at www.galleryofwoodart.org/pastexhibits.html.

The theme for the 2016 exhibition is 'Patterns'. All pieces will be auctioned live at the Atlanta symposium with simultaneous online participation, as held very successfully at the June, 2015 Pittsburgh symposium. Funds raised support POP initiatives, including merit and excellence awards, fellowships, panel discussions, an artist showcase, exhibits, a Facebook page and

an online resource database. Submitting artists are encouraged to document their creative process in detail – photos, blogs, videos, etc. In 2015, this added an extra dimension to the exhibition and generated significant interest in both the woodturner and collector communities.

Applications will be accepted online from 1 October, 2015–31 December, 2015. Work must be new, must relate to the theme and be small in scale – maximum size 200 × 200 × 200mm. Exhibiting artists may opt to keep up to 50% of the auction price and may place a reserve price if they wish. The \$35 (£22) entry fee covers jurying of up to three pieces, but only one may be accepted into the exhibition.

Applications are open to all AAW members in good standing – for membership information see www.woodturner.org.

The jury will be looking for work of a high aesthetic and technical quality. For full information on both of these exhibitions, see tiny.cc/CallForEntry.

Contact: AAW

Tel: (001) 877 595 9094

Web: www.woodturner.org

Woodturning experience for young people

For the sixth successive year, the East Herts Woodturners, with support from turners from several other AWGB clubs and volunteer professional turners, organised hands-on woodturning taster sessions for young people at Gilwell 24. Gilwell 24 is a 24-hour activity packed camp for Explorer Scouts and Senior Section Guides. It is held annually at Gilwell Park, the main activity centre for the Scout Movement. This year the event was attended by over 5,000 young people and their leaders. The woodturning was in a large marquee, which housed 18 taster session lathes – six lent by Axminster

Tools & Machinery. These lathes were manned by 18 experienced turners. Over the eight-hour period more than 170 young people and their leaders experienced hands-on woodturning and made a small wooden item, which they took away as a souvenir and proudly showed their handiwork to their friends. In addition to the taster sessions, there was an instant gallery display of turned items and demonstrations of woodturning by two turners. During the day, the Master of the Worshipful Company of Turners visited the marquee.

The East Herts Woodturners acknowledge

the generous support of the Worshipful Company of Turners, the AWGB, Axminster Tools & Machinery, Chestnut Products, Henry Taylor Tools and Birchanger Wood Trust. Without the support of turners from East Herts and other local clubs including Cambridge, Chelmer Valley, Middlesex and West Suffolk and some volunteer, professional turners – this woodturning experience event would not have been possible.

*John Leach
East Herts Woodturners*



PHOTOGRAPHS BY JOHN LEACH

One of the participants enjoying making shavings



The Master of the Worshipful Company of Turners trying his hand at turning



The East Herts Club Chairman – right – and the previous Chairman – left – listen intently to the morning briefing



Square spiky end grain oak (*Quercus robur*) bowl, by dunkhooper



Nick Agar-inspired textured and coloured bowl, by edbanger



Spalted burr sycamore (*Acer pseudoplatanus*), 250 x 75mm, by Neil Lawton

The North of England Woodworking & Power Tool show 2015

The North of England Woodworking & Power Tool show, or the 'Harrogate' show as it is affectionately known, is the largest and longest established retail woodworking show in the country and is a terrific day out for its thousands of visitors.

For 2015, there will be an excellent line-up of demonstrators with more than 40 taking part covering every discipline. You can expect to see demonstrations from woodturners including Stuart Mortimer, Andrew Hall, Michael Painter and

Woodturning magazine Editor, Mark Baker.

The show takes place at the usual venue of the Great Yorkshire Showground and advance tickets are now on sale. For further information, see details below.

When: 20–22 November, 2015

Where: Hall 1, Great Yorkshire Showground, Harrogate, North Yorkshire HG2 8NZ

Contact: SK Promotions

Tel: 01474 536 535

Web: www.skpromotions.co.uk

Weald of Kent Craft & Design Show

The Weald of Kent Craft & Design Show returns to Penshurst Place from 11–13 September this year.

This show will feature a host of exquisite and fine British crafts and is a chance to discover beautiful pieces for the home, including furniture and glassware as well as jewellery and leather goods. As well as browsing the crafts marquees, visitors can take part in demonstrations, workshops and relax in the beautiful grounds of the house and gardens.

There is plenty of fun for all of the family, with activities for children including face painting, bouncy castles and a children's play area.

The Graduate Marquee by Informed Design is back by popular demand, bringing a range of stunning work from newly qualified designers. This is a unique opportunity to snap up exquisite pieces at fantastic prices from the next 'big names' in the industry. Visitors are invited to browse work made with the utmost care to the highest quality that is inspired by innovative design.

To top off the day of sights, tastes and activities, the fascinating Birds and Beasts Roadshow is a must do experience for the



PHOTOGRAPH COURTESY OF ONE VOICE MEDIA

Expect to see a range of crafts at this event

brave with its collection of live animals, creepy crawlies, reptiles and birds, the latter of which will be showcasing exciting falconry displays.

There will also be the Good Food Live area as well as The Café Eatons Bar, which will be open throughout each of the show days.

When: 11–13 September, 2015

Where: Penshurst Place, Penshurst, Tonbridge, Kent TN11 8DG

Tickets: Adults: £8; senior: £7; children under 16: free if accompanied by parent, otherwise £3

Contact: ICHF Events

Tel: 01425 277 988

Web: www.ichfevents.co.uk



PHOTOGRAPH BY KEITH JACQUES

Keith Jacques' garden dibber

Turned items for the garden

Hi Mark,

I have just read your editorial in the July edition and thought I would send you a photo of the garden dibber I made.

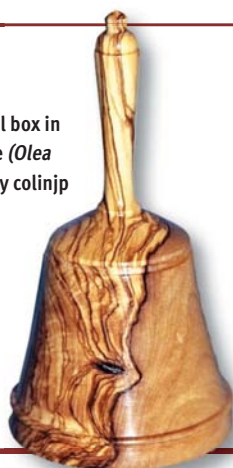
For my 49th birthday in April, I decided I would convert my cellar and treat myself to the workshop I have always wanted and after several weeks of hard work, I finally managed to get to the point of putting a tool to the wood. But what to make?

I'm a keen gardener and had recently lost my dibber at the allotment so that seemed a good choice to give some focus to my efforts. So here it is! My first effort at turning!

I've since made a couple of bowls, a goblet and some pens and can happily say I'm hooked on woodturning. The possibilities are endless as demonstrated by some of the wonderful pieces created by the contributors to your magazine, which are truly inspirational. Thanks for a great magazine.

Kind regards, Keith

Lidded bell box in wild olive (*Olea europea*), by colinjp



Latest textured and embellished piece by R1kx



Form based on a Japanese Donabe cooker, 140 x 75mm, by Kiwi

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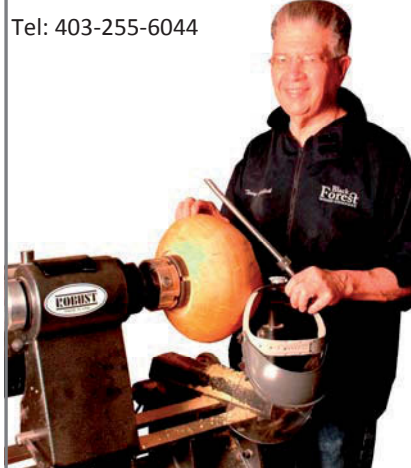
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25th anniversary giveaway

– NOVA Comet midi lathe & accessories

To celebrate 25 years of *Woodturning* magazine, over the next few issues the leading names in the industry will be giving away items from their product ranges. This month, **BriMarc Tools & Machinery** give away one of their NOVA Comet lathes and a host of other accessories to **one lucky reader**

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PHOTOGRAPHS COURTESY OF BRIMARC TOOLS & MACHINERY

NOVA G3 reversible chuck

This four-jaw self-centring geared chuck is designed exclusively for the NOVA Comet II midi lathe. It comes with a reverse lock feature, which enables the chuck to be locked securely onto the lathe spindle when using the forward and reverse functions. This fully featured chuck comes as standard with the unique NOVA features, including 'Auto Stop', copper composite jaw slides, woodworm screw, comfortable T-bar handle and 50mm jaws. The powerful 'Tuff Lock' gearing with precise, hardened action delivers incredibly smooth strength for a solid, vibration-free performance. This chuck takes the same accessory range as other NOVA chucks in the range, giving you the ultimate in flexibility.



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How to enter

Send your details on a postcard with the title '25th anniversary giveaway' to **Woodturning Reader Giveaway**, 86 High Street, Lewes, East Sussex BN7 1XN or send an email to

karencs@thegmcgroup. The closing date for the competition is 3 December, 2015.

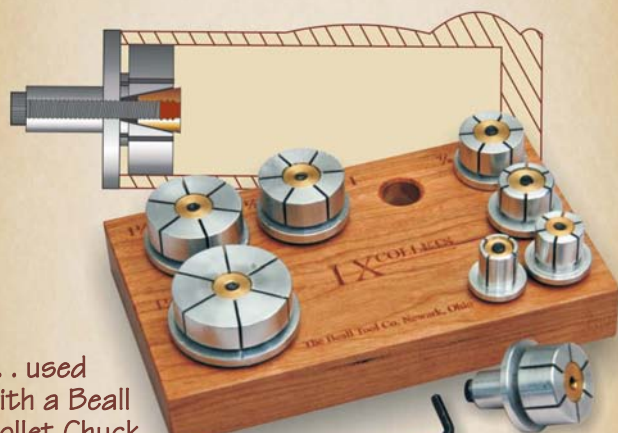
Competition rules

The competition is open to everyone. Only completed entries received by the closing date will be eligible. No entries received after that date will be considered. No cash alternatives will be offered. The judges' decision is final and no correspondence can be entered into. The winner

will be expected to be in possession of a copy of this issue of *Woodturning* magazine. One entry per household. Employees of GMC Publications, their associated companies and families are not eligible to enter. By entering the competition, winners agree to their names being used in future marketing by GMC Publications and BriMarc Tools & Machinery, unless you mark your entry otherwise



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Box-making problems

Richard Findley continues his problem solving series by looking at the common problems faced when making turned boxes

RICHARD FINDLEY



Richard is a registered UK professional woodturner living and working in Leicestershire. He discovered woodturning while working for his father as a joiner. Richard makes all kinds of work to commission,

from replacement antique components, walking canes and stair spindles, to decorative bowls. It is the variety of work that he loves. He also offers demonstrations and a range of woodturning supplies.

richard@turnersworkshop.co.uk
www.turnersworkshop.co.uk

Follow on Instagram: [richard_findley](#)

Turned boxes are interesting and challenging to make. With so many different design variations available, you can test your skills over and over again, without ever making the same box twice.

The other advantage is that they are usually quite small, which means you need very little timber to make one. This therefore offers the opportunity to use timber that is perhaps highly figured or more exotic than you might ordinarily use. So get out that prized piece of timber and try some box-making!

Despite the small size of turned boxes, there is a wide range of challenges and issues that present themselves in their making. In this article, I hope to look at these problems and try to offer solutions to make your next box-making project just a little easier or more successful.

Areas I will look at include:

- Timber selection
- Planning and designing
- Order of work
- Hollowing techniques
- Lid fitting
- Jam chucking
- Finishing



Using my digital moisture meter shows that the walnut (*Juglans nigra*) is 8.6% and the oak (*Quercus alba*) is 10.3% – both are suitable for box-making

A common scenario

Some may argue that you should design and plan your project first, then find a suitable piece of wood. However, this only really happens when working to commission – in reality, most turners will get a piece of wood, then decide what to make from it. As previously mentioned, one of the draws to box-making is the small sections of



timber that you can use to make boxes.

The single most important thing about your timber selection for boxes is to make sure it is fully dry. Movement after turning will cause the lid to jam or become loose because as wood dries it tends to become slightly oval – depending upon where on

the tree the wood was cut – rather than staying perfectly round. Kiln-dried timber should be fine to use, straight from the blank to the end product, but if there is any doubt about just how dry the timber is, you need to part turn the box, including removing a good proportion of the inside, then set it

aside to settle for several weeks, before finish turning. A moisture meter is a very useful tool to have in the workshop, just to make sure your timber is ready for use. Anything around 10% moisture content should be fine to use, but if it's above 15%, then it will need part turning.

Planning & designing

From talking to turners, I know that most don't plan their project beyond what they are going to make that day. Due to the complexity of boxes, I would always recommend having some sort of design to work to. Many people will respond to this with 'but I can't draw!', but when I say design, all I mean is having an idea of what you intend to make. This can be a photo printed from the internet, having a book or magazine with you in the workshop or by making a rough sketch. A good reference for box-making is Chris Stott's book *Turned Boxes – 50 Designs*. If you can't find something that inspires you in there, then you probably should give box-making a miss!

A little forethought and planning can save all sorts of problems later. The biggest issue that immediately springs to mind is the positioning and sizing of the opening and join between lid and body.



Designs can develop from books, the internet or just from sketches. Drawing the shape on the wood can also help you to visualise the end result. Notice how I didn't use the shape in my sketch for the oak (*Quercus alba*) box in the end. Just because you have a sketch, you are still allowed to change your mind!

A simple sketch can help to clarify this detail in your head and give an approximate dimension to work with. You can then develop the rest on the lathe if you so wish.

The other thing to consider when making a box is its end use. Are you intending this to be more of an ornament to sit on a shelf or as a functional box? If it will be an ornament, then you are free to make whatever design you please, but as soon as you give the box a practical use, you need to ensure it is fit for purpose. A pill box with a loose lid and a tall pointy finial will be of no use, for example. A box intended to store cinnamon sticks needs to be tall enough to hold them in one piece. These are all simple, basic and apparently obvious things, but without making an initial plan, they can easily be overlooked!



As you turn, keep in mind your sketches and reference material as you make your cuts to ensure you get the form as close as possible to your intended design

What next?

Knowing the order of work is helpful. With boxes, you need to follow these basic steps:

1. Rough turn the blank to a cylinder
2. Turn a chucking spigot at both ends
3. Mount the base in the chuck and begin to form some shape
4. Part the lid from the body
5. Define the outer shape and hollow
6. Cut the join for the lid to sit on/in
7. Mount the lid in the chuck, hollow and fit to the body. This should be a tight fit
8. Remount the box body in the chuck and finish turn the lid, using the body as a jam chuck
9. Sand the completed outside profile of the box
10. Adjust the fit of the lid to suit your requirements
11. Make a jam chuck from scrap wood and mount the body on it to finish the base
12. Apply the finish of your choice

Hollowing



'Standard' box-making tools: small scrapers, spindle gouge and a cranked scraper

A major part of box making is hollowing the body. There are a number of techniques and various specialist tools available, but for the vast majority of shapes, you will be able to use standard tools. The addition of just one or two specialist tools will make it easier, however.

The main tool I use for hollowing a box is a spindle gouge but the other useful tools are a couple of small scrapers – I have a round-ended and a square-ended version and a small cranked scraper.

The boxes I made for this project are about as big as you can manage with these 'standard' tools.

Technique – to push or to pull, that is the question

This depends on the direction of the grain. If you are using a spindle blank, where the end grain faces the drive centres, then to cut with the grain, you need to use a pull cut. If you are using a cross grain blank, it is essentially a small bowl that you are making, so you need to push in from the rim to the bottom, just as you would when hollowing a bowl.

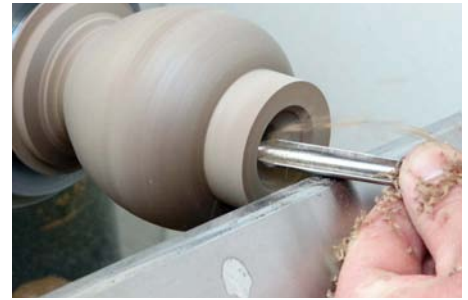
More often than not, a turned box will be made from a spindle blank, so a pull or draw cut is the order of the day. I usually drill down the centre of the blank, just shy of the full depth. You can use a drill to do this but the spindle gouge works well for this job too. Position the tip on the centre point, with the flute at around 10 o'clock, imagining that the circle of the blank is a clock face, and simply push. You will need to remove the tool to clear the shavings frequently, depending upon the timber you are using. If you struggle to get the gouge to drill, then experiment with the toolrest height until it does work.

With the hole drilled, continue to use the spindle gouge, flute still facing around 10 o'clock, cutting on the lower wing near the tip, and make arcing cuts, pulling and swinging the tip towards the rim of the box, always cutting on the lower wing, near the tip of the tool. As you get the feel for the cut, you can use more of the wing to make a more aggressive cut, but be aware that too much of the wing in contact with the spinning wood can quickly become a catch!

This cut initially creates a curved interior shape, but by manipulating the handle differently, you are able to create straight sides and even something of an undercut. There will be plenty of material to remove, so don't rush – experiment with adjusting how you present the tool, move the handle and notice how this affects the cut and the shapes that you make. I can't emphasise enough that you need to keep the tool with its flute pointing at around the 10 o'clock mark, otherwise a dreaded catch will follow.



Drilling with the spindle gouge



The hollowing cut, using the lower wing, near the tip

I've seen another way that is supposed to be more efficient



The 'Raffan' hollowing cut

There is another cut that you may have seen used by Richard Raffan in one of his many books or DVDs. This is impressive to watch and certainly removes timber at quite a rate, but looks quite daunting, as the tool appears to be used upside down, cutting at the top of the box. It isn't actually as difficult as it looks, but you do need to understand the geometry of your tool. Essentially, this cut is a simple bevel rubbing cut; however, the only way you can physically do this is by presenting the tool in this apparently irregular manner.

To master this cut, you need to be confident with your tool control and understand the signs of when the tool isn't working properly, isn't

rubbing the bevel and may be about to catch. If you don't feel you are in this position, don't attempt this, as it is definitely a more advanced cut. Start with the tool horizontal and the bevel rubbing, but without making a cut, gradually drop the handle, which raises the cutting tip, and feel for the cut. Once you get a cut, move in an arcing motion, back and forth until you are producing a shaving and removing the timber from the inside of the box.

I used this cut for the purposes of this article and, probably because it's not a cut I regularly use, I didn't find any advantage in its use, but perhaps with practice it could become a useful cut.

There are parts I can't reach with the gouge!

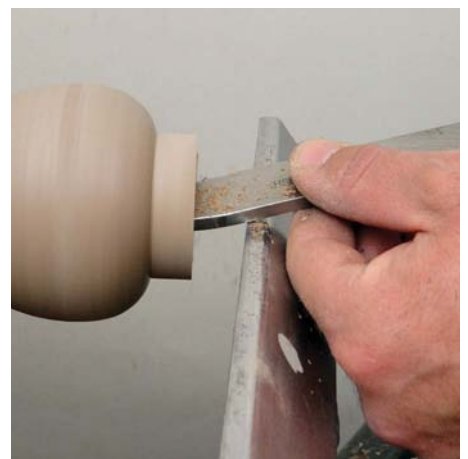
The spindle gouge will hollow the vast majority of a box with ease, but on 'ginger jar' or 'heart-shaped' boxes, it is virtually impossible to reach into that shoulder area with the gouge alone. There are two options available here: you either leave it, but have a box that feels imbalanced and heavy at the top, or you use a specialist tool. The tool I use for this is a small cranked scraper.

The beauty of this tool is that it cuts on all of its faces, so you can push forwards and cut on the end, arc it to the left, cut with the tip and pull it back towards you to cut on the inner part of the 'hook'. The problem with this tool is that you need to cut with only one of those points at a time. If you use too much of the edge at one time, it is easy to catch. Because you are working by feel alone, you need to go steady, especially at the

beginning, until you really get the feel for the tool. It is also important to remember that it is a scraper, so it needs to be presented in a trailing action, wherever it is in contact with the wood.



You can see how the cranked scraper will easily reach parts that straight tools can't



The cranked scraper in action. You will be working blind, by feel alone. Notice the trailing action with the handle raised and the tool slightly tilted to the side

SHARPENING SCRAPERS



To sharpen my scrapers, I polish the top surface on a diamond plate

There are two main ways of sharpening scrapers: the first is to grind the face to produce a burr, which will then be used to cut the wood; the other way is to polish the top face, which has the effect of keeping the edge sharp, but removing the burr.

This is my preferred method for box-making scrapers for several reasons:

- Firstly, tools like the cranked scraper don't have a great deal of steel in the little hook and they are a difficult shape to reach with a grinder, so polishing the top is much easier and removes less metal
- On dense timber – and boxes are frequently made of more dense timbers – a burr can be 'catchy' and more difficult to control, whereas a polished top scraper is much more user-friendly
- A test in *Woodturning* magazine a few years ago looked at the end grain of some scraped timber through a microscope. Each piece had been scraped with a different style of tool and the best finish was produced by a scraper with no burr and a polished top

MYTH BUSTERS:

Myth – 'scrapers aren't proper turning tools! Learn to cut!'

There are times when I might agree with this statement, but I'm not a tool snob and accept that there is a time and a place for almost every tool. On standard spindle work, a scraper is not the best tool for the job, but when working end grain as here, when hollowing a box or goblet, a scraper works equally, if not better, than a cutting tool. Don't believe me? Give it a try. Just remember that scrapers are just like any other tool and need to be kept sharp!

TOP TIP

With boxes, just like bowls and hollow forms, it can be difficult to judge the wall thickness. Don't be afraid to use callipers to check your progress

Using my 'Hope' callipers to check the wall thickness of my ginger jar box



Pips, dimples, nipples & nubs

The very centre of the inner base of a box can be troublesome. Sometimes, as you touch the tool to the wood, it skids dramatically across the base, leaving a spiral scar. Sometimes you end up with a little dimple or a spot you just can't seem to remove. The answer here is to make sure you hit the very centre of the base with the tool on entry;

this will immediately sort the problem. It is then just a case of moving smoothly away from the centre to the edge, to maintain a smooth bottom of your box. A common piece of advice is to start below the centre and raise the tool up to it, but this can often just exacerbate the problem. It is much better to go directly for the centre.



A common sight is a small pimple in the bottom of the box or lid



Removal is simply a case of cutting dead on centre with the gouge or scraper

Lid fitting

Once the box shape is cut and the centre hollowed out, the part that will make or break the success of your box is the lid. Initially, when you fit the lid to the body and shape it, you will be using the join as a jam chuck, so it needs to be a tight fit. We've all done it: you make a cut, it's too big, one more cut, still too big, just a bit more and before you know it, it's too small! Frustrating! However, there is a way to improve your chances of achieving a perfectly fitting lid.

I recommend using a taper to achieve perfect fitting lids. By cutting a gentle taper, the lid will fit at some point along that taper. Find that point and gradually remove the excess material to the left of the perfect diameter, towards the shoulder, producing a slightly raised surface. The advantage of this slightly raised surface is that the fibres of the wood will very slightly compress as you push the lid on, giving you a little leeway in

MYTH BUSTERS:

Myth – box lids should always be a tight 'pop' fit

I have seen many a turning demonstration where the demonstrator has declared that a box is a failure unless the lid is a tight fit that makes a 'pop' as you remove it. While this is certainly impressive in a demo, in reality this isn't always a desirable feature. Imagine you make a ring box for a lady's dressing table: does she want to be straining to open the box, only to break a nail as the box lid 'pops' open and its contents is launched across the room? Or would she perhaps rather use a box that she can open with her finger tips? Think about what your intended purpose of the box is and tailor the fit of the lid to suit. This is how the success or failure of a box should be judged, not on how tight you can make it

the fitting. By cutting it perfectly parallel, it will either fit or not. Achieving that perfect fit is close to impossible.

When I trained as a joiner, I learned that when cutting a traditional mortise and tenon joint, you always cut the mortise first, as it's easier to adjust the tenon. This principle will carry through to box making, although at some point, you will need to do it the other way round, but using the above technique, it is perfectly possible to achieve a good fit on either the male or female part of the box.

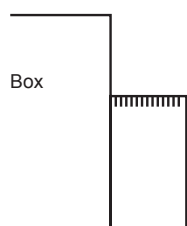


The first step is to cut a taper; this is slightly over emphasised for clarity

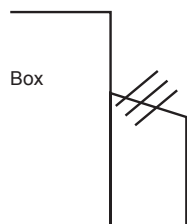


Removing material towards the shoulder and creating a slight dome gives you the best chance of a tight fitting lid

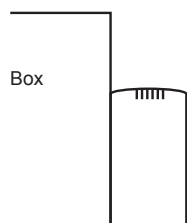
LID FITTING DIAGRAM



A parallel seating area for the lid will either fit or not



By cutting a taper, then removing material toward the shoulder, it creates a slight dome.



The slight crest allows the seating area to compress by a tiny amount as the lid is fitted, giving a really tight hold.

Adjusting the fit of the lid

Initially, you need to make the fit tight, so you can work the lid, using the body as a jam chuck. If it is a little loose at this stage, a piece of paper towel and the use of the tailstock will usually get you through.

Depending on how tight or loose the lid is, and your intended end fit, it will usually need a little tweaking. You can cut it with a chisel, but it is easy to remove too much material like this. My preference is to lightly sand the join. I've heard some say that you shouldn't do this, but personally, I have never had a problem. There are two main advantages of sanding the fit: firstly, it removes tiny amounts of wood at a time, so is very controllable; secondly, it means that the surface is sanded, just as every other surface on the box. It seems like a win-win situation to me.



If you find the lid is not quite tight enough to rework it safely, a piece of paper towel can give that bit of extra grip

Jam chucking



The box is not seated correctly here, so the chances of it staying there as you work the base are slim at best, even if the fit is tight

Hiding the join

The join between the lid and the body of the box can be problematic. If you make an 'invisible' joint by turning and sanding the two parts together, you will most likely find that after a week or so in a centrally heated house, the lid and body will move slightly and that beautiful invisible joint will now be easy to spot. It is therefore better to make a feature of the join, either with a 'V'-cut, a designed detail such as a small bead, or a small step, as on the oak box, which will hide any of the natural movement that will occur.

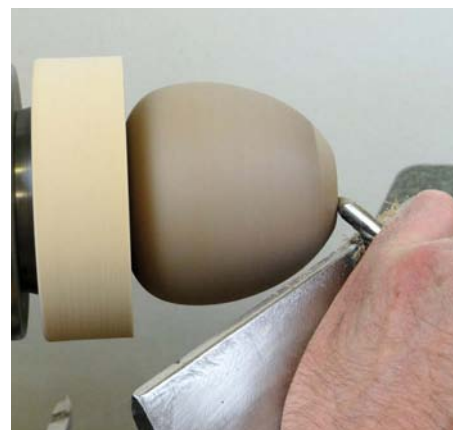


If you can cut the lid to fit accurately, then you should have no problem making a jam chuck. Use a scrap piece of timber, preferably softer than the box material so as not to damage it, and, using the same technique of cutting the taper, then removing the waste back to the shoulder to produce a slightly domed surface, you should be able to easily make a jam chuck.

Remember that jam chucks work in two ways, just like scroll chucks. They need to grip the surface of the rim and also need to seat up against the shoulder, to prevent levering forces from removing the box from the chuck. Make sure the fit is tight on a jam chuck, to give you freedom to finish the base of the box.



The box is now correctly seated and so, in combination with a tight fit, will stay in the jam chuck while you rework the base



The jam chuck in use. Light cuts are the order of the day here, no matter how good the fit!

Finishing your box

The exact finish you use is entirely up to you, but I would encourage you to put in a little thought to the end use. A box that will be handled needs a hard-wearing finish to ensure it stays looking its best. Something like friction polish gives an immediate high shine, but after handling can quickly begin to lose its lustre. An oil or lacquer may be more suitable for boxes that will be used regularly. Buffing is an increasingly popular option, especially for small items like boxes. Buffing the final finish with a resilient finish, such as Microcrystalline

wax will give a pleasing combination of high shine and longevity.

Another consideration is to choose a finish that will complement the timber used. For example, for this article, I have made a American black walnut (*Juglans nigra*) ginger jar-style box, which I have finished with lemon oil, a product that I know brings out the figure in the wood and emphasises the chocolate brown colour, but because I know lemon oil is a matte finish, I have finished it with a coat of Microcrystalline wax and lightly buffed it to achieve a pleasant sheen.

The American white oak (*Quercus alba*) box is finished using a hard-wearing hard wax oil, which again, brings out the natural beauty of the wood, leaving a natural sheen.

The interior of your box needs a little thought too. If it is designed to hold spices, herbs or other food stuffs, then leaving the interior surface unfinished will be the best option. Otherwise, a little Microcrystalline wax during the making process would be enough to protect it. If using for jewellery, you could even line the inside of the box with fabric, but that is a whole new set of skills! ●



Buffing the walnut ginger jar box to a pleasant shine



The completed pair of boxes

NEXT MONTH...

Continuing with the problem solving series and the theme of box-making, Richard will look at the problems faced when turning long, elegant and potentially delicate finials



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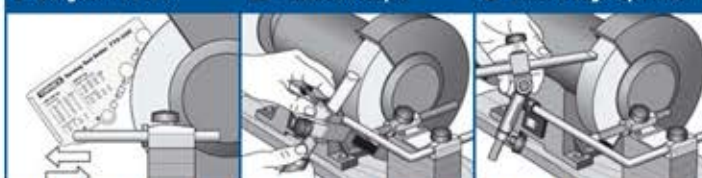
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Exploring the Rowbotham chess set

In the first of a new series on chess sets, **Mike Darlow** looks at the design of the 17th-century Rowbotham set

MIKE DARLOW



Mike Darlow lives in Exeter in New South Wales, Australia. He is the author of six woodturning books, three woodturning DVDs and about 150 magazine articles on woodturning.

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Each article in this new series will focus on a notable chess set and discuss its history, design and the techniques and equipment particular to its making. The series will thus complement rather than repeat content from my book *Turned Chessmen*.

My trigger to refocus on chess set turning was the July 2012 sale by Sotheby's for £277,250 of a single 6.7cm high walrus-ivory queen chessman carved in about 1400. Because of copyright restriction, Sotheby's was unable to provide an image for this article, but the piece can be viewed at www.sothebys.com/en/

[auctions/ecatalogue/2012/european-sculpture-works-of-art-medieval-to-modern/lot.31.html](http://www.sothebys.com/en/auctions/ecatalogue/2012/european-sculpture-works-of-art-medieval-to-modern/lot.31.html). Not having made a chess set since the publication of *Turned Chessmen* in 2004, it was obviously time to cash in.

The traditional role of professional woodturning has been that of producing useful and, where appropriate, ornamental objects relatively inexpensively. That role has been largely usurped because of the modern mass-moulding and machining techniques, which can be readily and cheaply applied to glass and other ceramics, plastics and metals. Wood is a naturally variable material that has to be carved to shape and, for wide market acceptance, sanded and polished – all relatively expensive processes. Further, over the last century the number of species available and the range of sizes and the consistency of quality have decreased while wood's relative cost has increased. For many of its former applications, turned wood is therefore yesterday's material.

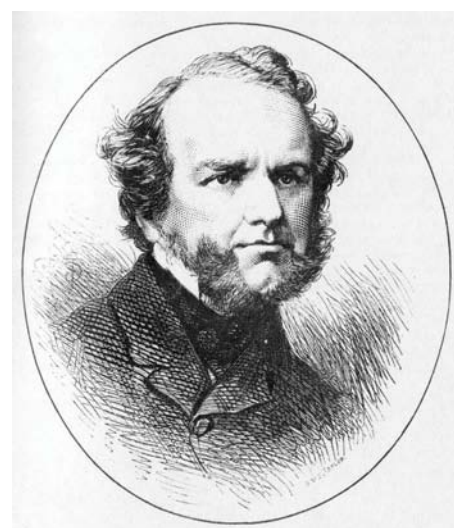
Fortunately chess sets remain a worthwhile subject for today's woodturners. Although chess has lost its 18th- and 19th-century

pre-eminence, and has faded somewhat from the general public's radar since the Bobby Fischer era, chess remains popular, and is especially encouraged in schools. For the amateur turner chess sets provide scope for design innovation and don't require hard-to-get wood of large dimensions or large or unusual equipment. And if gifted, a chess set is much more appreciated, particularly by grandchildren, than yet another bowl.

If you decide to make a chess set, should you copy an extant design? The French novelist and Nobel Prize for Literature winner Anatole France (1844–1924) advised: "When a thing has been said and well, have no scruple. Take it and copy it." A more recent and popular version is "God gave you eyes, so plagiarise." While sound advice providing that intellectual property rights aren't infringed and appropriate reference is made to the originator – who ideally is no longer with us – it's surely better to seek to improve on the original than copy it exactly. There is infinite scope to do this as will be shown in later articles, even though the design of a turned wood chess set has to be to some extent derivative.



Chess pieces of the Staunton design produced by the House of Staunton



Howard Staunton (1810–1874), chess champion, author, editor and Shakespearean scholar

Chess set design in general

A chess set is primarily a set of 32 men consisting of two sides each consisting of different numbers of six pieces. The Staunton design shown here is mandated for tournament play so that a player can't claim that he or she was confused by the design of one or more of the pieces, and therefore made a wrong move. It follows therefore that a set designed for play rather than as an art object shouldn't depart too far from the Staunton design.

The Staunton design is named after Howard Staunton, England's leading player and chess writer during the middle of the 19th century. His signature appeared on the label in the box in which the early sets were sold, and he received a commission on sales.

The set was, however, designed by Nathaniel Cook, and its design registered in 1849.

The set was first advertised for sale on 29 September, 1849 by John Jaques & Son. This firm, now called Jaques of London, continues to manufacture the Staunton design, introduced croquet into Britain and invented table tennis.

In *Turned Chessmen* I formalised the long and perhaps unconsciously understood concepts of set, side and piece signatures. A set signature consists of the features that identify preferably all the men of a set as belonging to that set. The side signature identifies which side in the set a chessman belongs to – in the majority of sets the side signatures are colours,

hence the sides are called black and white. The piece signatures identify a chessman as one of the six pieces in a set. These pieces with their abbreviations are: king (K), queen (Q), bishop (B), knight (N), rook (R) and pawn (P). A clear set signature is not essential for a playing set, but is a reflection of what Ernst Gombrich (1909–2001) called in his 1979 book *The Sense of Order* man's desire for a sense of order. However, distinctive and clear side and piece signatures are vital contributors to playability; other factors being a set's pieces' forms and dimensions related to the particular board used, durability and cost.

Design of the Rowbotham set

The Rowbotham set is the oldest that we will look at in this series of articles. Its date is uncertain, but is most likely to be 17th century. On page 29 you can see an almost exact copy of the original, details of which were sent to me by a member of Chess Collectors International, the society of chess set collectors. I've named the design 'Rowbotham'.

This set's design is in the St George style. This style name, coined long after the Rowbotham set was made, recalls a set design used at the St George's chess club, which was founded in 1843 and first met at Beattie's Hotel, George Street, Cavendish Square in London. The characteristics of this pattern are a fairly cylindrical overall form with a wealth of detail including high beads and half beads, deep coves and prominent V cuts, and strong piece signatures. A variety of 19th-century St George sets is shown at www.chess-museum.com/st-george-chessmen.html.

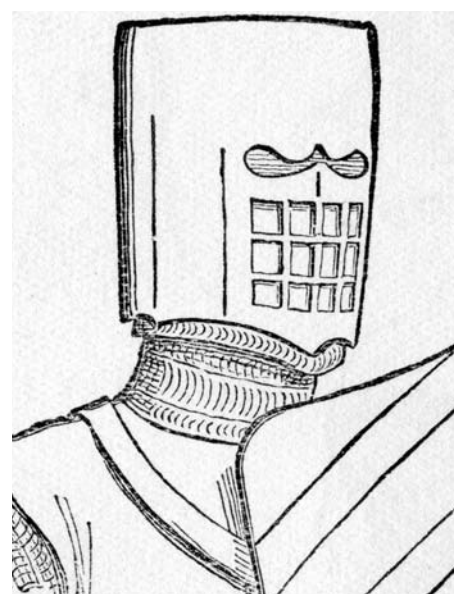
As you can see, the Rowbotham design is without a strong and consistent set signature. Did the turner understand what he was turning, and was its design a copy of, or

based on, an earlier set? We'll never know. Although design 'improvement' will be the main focus of the articles in the rest of this series, the Rowbotham design is so confused that I haven't attempted to improve it and merely offer its pencil gauges so that you can replicate it.

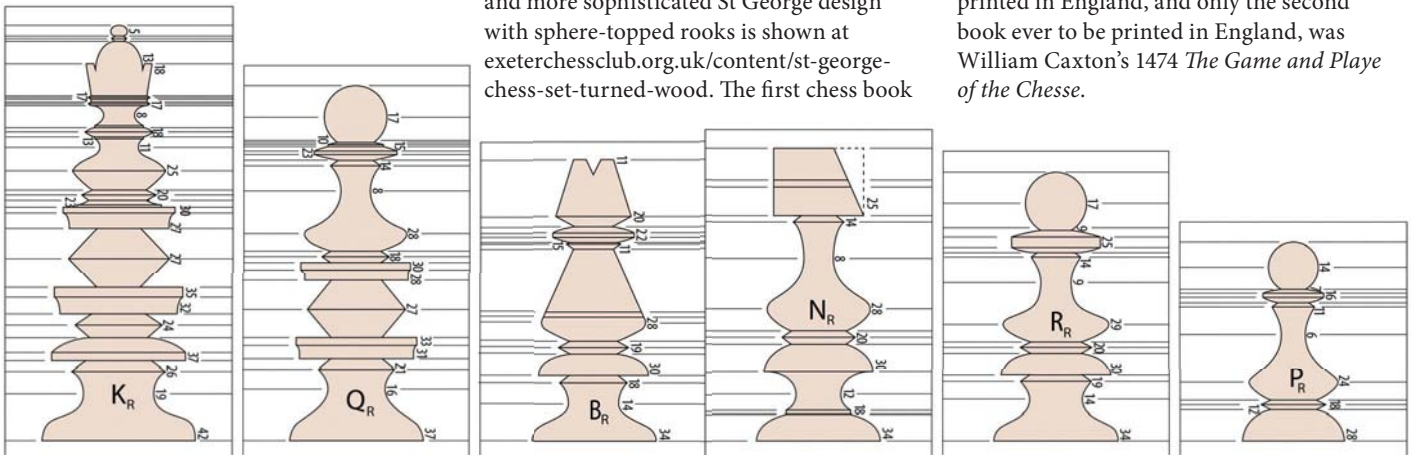
Five of the set's final piece signatures are conventional: a king's crown, a queen's orb, a bishop's mitre and a sphere for a pawn. Two piece signatures are, however, uncommon: the knight's represents a pot helm, which was usually bevelled so that the resulting flat face resembled either a heater-shaped shield – like that of the sole of a clothes iron – or the front elevation of a charger's head; and the rook's piece signature is a sphere rather than the usual representation of a castle tower.

This spherical rook piece signature may have been more common than has been assumed. The second chess book printed in English was James Rowbotham's 1562 translation of the 1512 book by Pedro Damiano titled *The pleasaunt and wittie playe of the Cheasts renewed, with instructions both to learne it easely and to playe it well*. In his book Rowbotham explains

that "The Rooke is made Lykest to the Kinge, and the Queene, but that he is not so long [tall]", which suggests a spherical rook piece signature. As confirmation, a 19th-century



A pot helm worn by knights in the 12th century in battle and in tournaments



Pencil gauges for the Rowbotham pieces

and more sophisticated St George design with sphere-topped rooks is shown at exeterchessclub.org.uk/content/st-george-chess-set-turned-wood. The first chess book

printed in England, and only the second book ever to be printed in England, was William Caxton's 1474 *The Game and Playe of the Chesse*.

Tools and associated equipment

In a chess set side there are eight pawns and two each of three of the other pieces. Because of the way that chess is played, any discrepancies in the forms and dimensions of the multiple men of the same piece will be subjected to adverse comment. To minimise this, you'll need to set out your turnings with pencil gauges. These are readily prepared by copying the pencil gauges shown earlier, cutting out the piece drawings and gluing them on card. You can of course magnify or shrink the piece drawings if you wish.

Unless you're making an oversized set for outside use, chess men are typically less, and often much less, than 130mm tall; also any beads are high and any coves and V-cuts are deep and narrow. Typical turning tools are therefore too large. Small turning tools are available but many are slender, therefore flex in use and catch unavoidably. To overcome the slenderness problem you can modify the tips of suitably cross-sectioned stiff tools or insert tips into stiff shafts.



Left, a small detail gouge ground from a 12mm o.d. bowl gouge; right, this gouge's tip was cut from a 6mm o.d. bowl gouge and mounted in a 13mm o.d. shaft. Front, Vernier callipers with its tips rounded so they don't grab, but slip sweetly over the required workpiece diameter. I prefer to calliper a required diameter in an adjacent section rather than on the exact location so that the finished surface won't have tear-out



Parting tools, from left to right: 6mm wide, 3mm wide, 1.5mm wide ground from a 6mm wide parting tool



Left, a 12mm wide skew; centre, a 6mm wide skew ground from a 12mm wide skew; right, a 3mm wide skew tip ground from the stub of a HSS twist drill and mounted in a 9.5mm diameter shaft cut from a bolt



Boring a shaft cut from a bolt. After inserting the tip, a crisp hammer tap on the tip end of the shaft locks the tip in

◀ Turning

I turned my set from a piece of an unknown acacia (*Acacia spp.*) species and some blackwood (*Acacia melanoxylon*) – despite its name, blackwood's heartwood is orange or brown, never black. The original set was turned from ebony and ivory: then, as now, expensive materials. The turner therefore probably worked in a city for a wealthy clientele and would have had up-to-date equipment including a treadle lathe. When treadle lathes were invented is unknown: Leonardo da Vinci drew one in about 1480, Joseph Moxon pictured one in his *Mechanick Exercises*, first published in 1678.

The original chessmen have drive centre imprints in their bottoms and single tail centre imprints in their tops. To ensure that the bottoms of the original chessmen were both slightly concave and exactly perpendicular to their vertical axes, I surmise the following:

- The men's blanks were cut about 2mm longer than their finished heights
- At each blank's right-hand end the man's bottom was skimmed slightly concave, and some proportion of the man was finish-turned
- Each workpiece was then carefully transposed so that it still ran true and its finish-turning completed leaving the imprint of the centre prong of the drive centre and of the tailcentre in its top. The silica-rich leaves of Dutch rushes (*Equisetum hyemale*) were probably used for sanding.

You can use this original method or the alternative below in which:

- Each blank is cut about 10mm longer than the man's finished height
- The bottom – at the tailstock end – is skimmed slightly concave
- The bottom's finished diameter is callipered

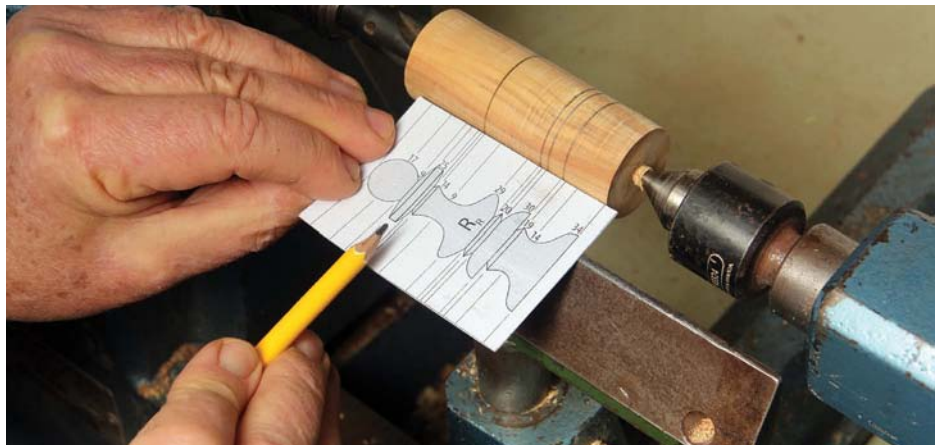
towards the workpiece's right-hand end, the workpiece is roughed to a cylinder of that diameter, and marked out. Finish-turning and any further marking-out are then performed working from right to left

- After finish turning and sanding, if the workpiece needs to be remounted in the lathe for any finishing operations, its left-hand waste should not be parted off. If it's a king, its crown's points are marked out using the lathe's indexing facility and then carved. If it's a bishop, the V-grooves in the mitre are marked out using the indexing facility, then partially carved
- After any in-lathe finishing, part off the figure from its waste and trim off the small section of waste left on top of the piece. Make sure when doing this that if the chisel slips, it can't slice into your other hand. Also carve and sand the bevel on each knight. Finally, sand and patch polish the top by hand or in the lathe using a step chuck or equivalent.



SCANNED FROM THE BOOK OF ENGLISH TRADES, PUBLISHER, G. AND W.B. WHITTAKER, LONDON, 1824.

A treadle lathe



Marking out after the workpiece's – here a rook's – right-hand end has been skimmed slightly concave with a skew's long point, the bottom diameter call



Hold a pawn in a step chuck to finish its top

Finishing

I don't favour thick, ultra glossy polishing, nor do I have spraying equipment. Instead after turning and sanding a man, I don't part it off. Once the whole set is turned, and the kings' crown points fully and bishops' mitres partially carved, I remount each piece between centres, and with the lathe running slowly, brush on a thin coating of one-pot, water-based polyurethane. This form of polyurethane is water clear, not tinted, gives off few harmful

fumes and the brush needs only to be washed with water and soap or detergent. After allowing at least a day for the polyurethane to fully harden, I sand off and burnish with Shellwax friction polish and part off each piece, then separately complete any required carving, sanding and polishing. This set's men aren't leaded, nor do they have discs of leather or baize glued to their bottoms. The related techniques will be discussed in later articles.

Conclusion

The Rowbotham chess set confirms that a design has neither to be rational nor rationalised to be both attractive and suitable for play. To turn the set successfully you'll need fairly high turning skills, but even if you have turned considerably more than 32 men to achieve an acceptable set, the cost of the wood you'll waste will be far outweighed by the improvements in your gouge and skew techniques. ●

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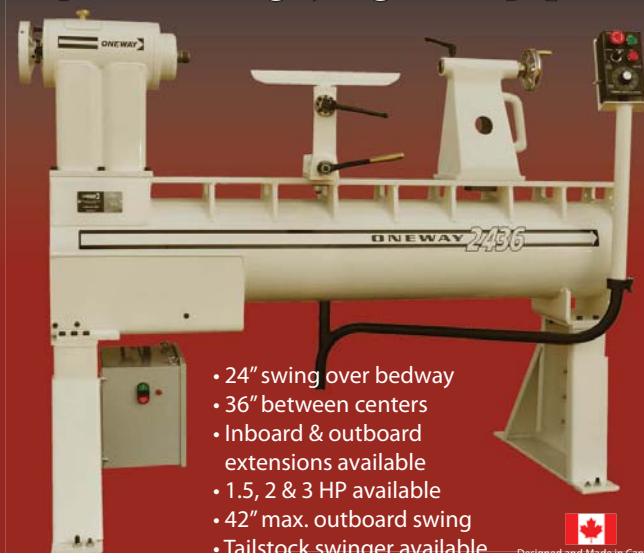
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One Thousand Two Hundred

No, that's neither the number of my Facebook 'friends' (perish the thought) nor the count of my Twitter tweets. It's not even the year of my birth despite all rumours to the contrary. I guess that one thousand over two hundred is pretty close to my blood pressure (!) but, Hey Ho. Whichever way you look at it though, you have to admit, that it's a pretty impressive number, whether you write it alphabetically or numerically.

Why is it there? Simply, to draw attention to the fact that this is about the number of *different* woodturning tools that we stock at The ToolPost, sourced from over a dozen manufacturers worldwide. And we do mean *different* tools, not simply the total quantity of tools held. That's a whole lot of gouges, scrapers, parting tools, hollowing tools, skewers and all sorts of other woodturning tools.

If you buy your tools from a shop that only stocks tools produced by one supplier, then you will have a choice of 'one from one' - which is not a whole lot of choice. In fact, it is no *choice* at all. One from two isn't much better either!

Here at The Toolpost, we believe that choice is important. But unlike some folk - politicians would be a good example - we understand that many of us, given choice, also need *guidance*: and that is very much our added value.

We don't simply stock tools: we use them, demonstrate them - love them - and we are more than happy to help you understand them, understand what they do, how they work and why you might need them. Helping you to make better decisions and *informed* choices.

For sure you don't need 1200 different turning tools in your armoury: maybe six, ten, a dozen, twenty - only you can decide - but you do need, and deserve, to have the widest possible range of different tools, both models and brands, from which to make your selection.

If you are a discerning buyer of tools, if you know about what matters and if you understand that choice is not about difference but about *selection*, then you should be shopping at The ToolPost.

This doesn't necessarily explain why we stock more different turning tools than anyone else on the planet - but it helps to keep my bank manager quiet. Maybe my being 'just another turning tool junkie' helps, too! It probably makes sense for you to capitalise on my addiction.

Our Open House events provide an excellent opportunity to do just that so why not come along in November and take a look - at 1200 different tools - and all that goes with them. You'll be very welcome.

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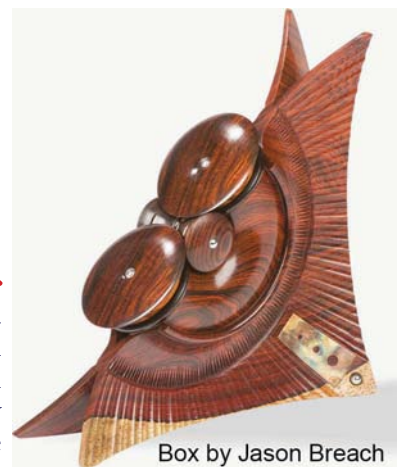


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sharing expertise



In the workshop with... Chris Withall

We go in the workshop with **Chris Withall**

Having previously worked as a mechanical/electrical engineer all his working life, Chris was used to the metal turning lathe. It wasn't long after seeing a programme on pen turning on the Discovery Channel that Chris was enthralled by the thought of woodturning.

How, when and why did you start turning?

After seeing the Discovery Channel programme, the thought of turning a small pen on a woodturning lathe appealed to me. I bought a small lathe and after my first attempts at making pens, I wanted to know more about woodturning and I was hooked. After a few years of working on my own, I attended a demo day at my local Axminster Store and there were a few woodturning clubs doing demonstrations and having spoken to some of the turners, I joined my first club, Orchard Woodturners.

What and who are the greatest influences in your work?

The greatest influences on my work are watching the demonstrations both professional and amateur at my local clubs – Orchard Woodturning Club & Medway Woodturning Association – and, of course, reading *Woodturning* magazine. I am not a very artistic person normally, so seeing items turned by other woodturners has been the driving force for me to try and make something different for the monthly competitions at the clubs.

If you were to offer one sage piece of advice to someone what would it be?

My one piece of advice to anybody wishing to start woodturning is to attend a good course with a registered turning instructor. This will hopefully lay the foundation to help prevent mishaps in the workshop. I attended a course

with Dave Bates of Stiles & Bates. He is a natural teacher and really funny as well. Joining a local woodturning club is the best advice I can give – I love the camaraderie of the members.

What music and which book are you currently into?

Being a teenager in the 60s, I prefer rock music – Led Zeppelin, Nazareth, etc. – and quite a bit of the new type of music as well as some classical. As for books, I read mainly thrillers. My daughter bought me a Kindle for Christmas and the world of books has really opened up for me. My favourite authors include Clive Cussler, Lee Child and Andy Remic, and of course *Woodturning* magazine!

What is your silliest mistake?

Where to start! I've made a few, but not concentrating and going through either the

◀ side or the bottom of my turned items is something I am still prone to.

What has been your greatest challenge?

Having come from a high pressure work environment where everything is done quickly, my biggest challenge is making myself slow down and take my time. Too often I rush and am disappointed with the end result. As I am retired, I have no need to rush now so I need to calm down.

Name one thing on your turning 'to do' list?

I have become very interested in textured surfaces, hollowing and segmenting. I will be attending a hollowing course soon with Mark Sanger and hope to come back with more confidence to produce some hollowed items. I would also like to further my knowledge of texturing and colouring.

Which piece are you currently working on?

I'm not currently working on anything special, but my last project was a piece

which I have called 'Marbellous'. It is very different from my usual items having got some 'artistic' ideas from the fancy sideboard decorations that my wife bought.

What is the one piece of equipment or tool you would not be without and why?

I love my woodturning lathe – Jet 1221vs with bed extension – but my favourite tool is the Robert Sorby RS200KT, which was a must-have after watching a demonstration. It is good for rapid wood removal on bowls and making sheared scraping cuts.

If you could change one thing what would it be and why?

To be more artistic instead of logical. My grandfather was an artist, so I should have the genes, but I don't know what happened to them when they got to me!

What is your favourite type of turning?

I mainly make bowls, dishes, boxes and no end of pens for sale for our chosen charity,

but I need to progress on with different types of woodturning and that is why I shall be attending more courses in the future to try and bring some different aspects to my work.

If you had one wish, what would you wish for?

I really wish I could have more time to spend in my workshop and a good source of unusual turning timber other than the selection that is available at the usual woodturning stockists.

If you could have one piece of equipment, what would it be and why?

I would really like a much bigger lathe, but space is at a premium in my workshop so until I have a good clear out, this will have to wait. I recently made a reversing Cole-type backplate to enable me to clean up the bottoms of bowls, etc. and this has been very useful – in fact, I don't know how I made do without it! ●



Spalted hornbeam (*Carpinus spp.*) vessel with ebonised ash (*Fraxinus excelsior*) top, 120mm high × 80mm wide



Ash (*Fraxinus excelsior*) bowl, 240mm wide × 70mm high



Apple (*Malus sylvestris*) bowl, 240mm wide × 70mm high



Silver birch (*Betula pendula*) hollow vessel, 130mm wide × 90mm high



Spalted hornbeam (*Carpinus spp.*) bowl with cherry (*Prunus spp.*) lid and stabilised eucalyptus (*Eucalypt spp.*) finial, 110mm wide × 170mm high



Chris' latest homemade jig is a reversing Cole-type backplate, which enables him to clean up the bottoms of bowls, etc.

LIKES

- Belonging to a good woodturning club
- Watching the shape and form appear as you are turning
- Being in the workshop either woodturning or making wooden toys
- Being surprised by comments from other woodturners about my work – good or bad
- Being part of the demonstration teams for both my woodturning clubs
- Doing demonstrations at club level and outlets – Axminster and the South East Woodworking Show
- Attending other club demonstrations as a guest

DISLIKES

- Negative comments concerning people's turned items which they have spent time on
- Clearing up after a good day in the workshop
- Being impatient
- Really dislike getting a catch on the 'last cut'

HANDY HINTS

- One of my 'hats' when I used to work was being a Health & Safety advisor and the most important thing when woodturning is to protect yourself – PPE and dust extraction are essential
- Always keep your tools sharp and invest in a good sharpening jig
- Be positive in your comments on other turners' work



Chris' favourite tool: the Robert Sorby RS200KT

Email: bogarde@hotmail.co.uk



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PHOTOGRAPH BY WALTER HALL

Making pens with polyester and acrylic materials +

In the next part of this series, **Walter Hall** looks at the considerations to make when turning polyester and acrylic materials on the lathe

WALTER HALL



Walter Hall is a woodturner who has specialised in making pens and pencils for more than 20 years. Based on the beautiful Northumberland coast in the UK, Walter sells his bespoke pens and pencils through local craft centres and via his website.

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www.walterspens.co.uk

Using plastic materials to make pens can be as challenging and varied as making pens from wood. There is a wide range of synthetic materials available to the pen maker and it is beyond the scope of this article to describe them in detail. For those interested in finding out more about plastics, a good starting point would be the article written by Kurt Hertzog in issue 274 of *Woodturning*. For the purposes of this article, we shall be dealing with how to get the best from the wide range of readily available



A selection of acrylic pen blanks

polyester and acrylic blanks. Before looking in detail at the various stages of making them, here are some general considerations.

Most of the commercially produced pen blanks are thermoplastics of one kind or another and will not react well to being overheated. Light cuts, slow drilling speeds

and sanding at slow speeds or using water as a coolant, are essential to avoid irreversible damage to the materials. The brittleness of the materials varies from one plastic type or brand to another but sharp tools and delicacy of touch will always be necessary to achieve a clean cut.

Drilling

One of the most frequently asked questions I hear from inexperienced pen makers is: "Why do my acrylic blanks split or break out when I am drilling them?" The answer is usually that insufficient care is being taken to use appropriate speed and pressure so excess heat and stress is being placed on the material, but there are a number of ways of making sure that this does not happen to you.

I don't think it matters much whether you drill on the lathe or using a pillar drill – either way the blank must be properly supported in a chuck or drill vice and a suitable drill bit used. I prefer bullet tip drill

bits but ordinary jobber bits will also be fine. Lip and spur bits are fine for wood but when used with synthetic materials are likely to increase the risk of breakout as the bit exits the work.

I like to drill at 400-500rpm; this low speed avoids overheating and in conjunction with gentle pressure from the tailstock or press, should be sufficient in itself to resolve 90% of breakout problems. The photos below show how a bullet-tipped bit creates a pilot hole for itself and how the tip breaks through first, enabling the main body of the bit to leave a clean hole with no chipping. It is also

important to withdraw the bit regularly to clear the swarf. This will also help to prevent overheating and allow space within the flutes of the bit for chip clearance as the tip beaks through.

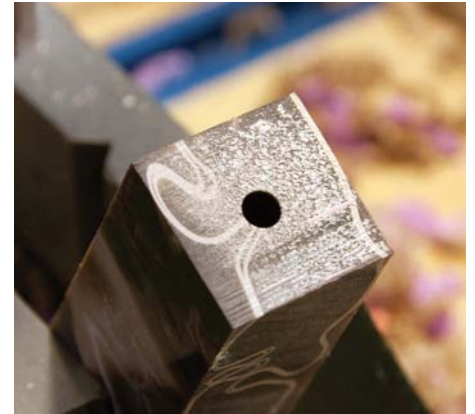
A sure fire way of preventing splitting or chipping on breakout is to avoid the breakout stage altogether. This is simply achieved by cutting the blank slightly over length, marking the drill with tape to fractionally over the length of the tube to allow for trimming and drill until the tape just touches the work. The closed end is then cut off with a bandsaw, leaving a perfect hole.



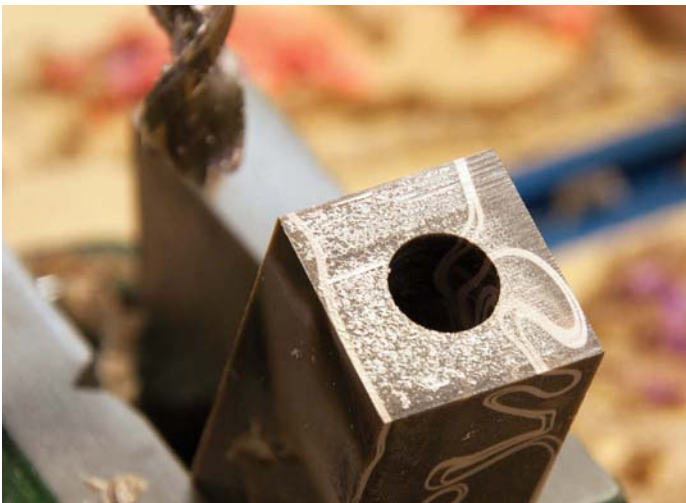
Bullet tipped – left – and jobber – right – drill bits



Bullet tip bit drills its own pilot hole



Tip creates small exit hole



Clean exit hole with no breakout or chipping



Drill bit and blank prepared to drill short of breakthrough



Regularly withdraw the bit and brush away swarf



Stop drilling when the tape just touches the blank



Result: a perfect exit hole and very little waste

Preparation

Before going on to glue in the tube, consideration needs to be given to another characteristic of many synthetic materials – their translucency. As you can see from the photo below, on the thinner parts of some blanks, the brass tube can reflect back through the blank, causing unsightly discoloration. The extent to which this is a problem will vary with the colour and translucency of the individual blank, but I prefer to play it safe and always prepare the blanks or tubes to avoid this. It is possible to buy stainless steel or white

painted blanks for most kit styles, but while these will prevent the problem, there is no need to go to this expense as simply painting the tubes with a white primer or a colour that relates to the colour of the blank is equally effective. Artists' acrylics, car body paint or even children's acrylics from the pound shop will work just fine. While it was probably not necessary with the 1.25mm-thick walls of the bolt action pen made for this article using a GPS Agencies' Kirinite 'Desert camouflage' blank, I painted the tube using artist Raw

Sienna acrylic paint to match the blank. Some materials are so translucent that it is even possible to see irregularities in the glue distribution through the blank. With these, it is better to paint the inside of the blank rather than the tube.

Once the paint is dry, the tube may be glued into the blank using any of the adhesives you would use for a wooden blank. My personal preference is a quick setting epoxy, but some makers prefer polyurethane glues or cyanoacrylates.



Brass tube showing through thin translucent blank



Artists' acrylics are one option for painting the tube or inside the blank



Raw Sienna acrylic paint was used with this Desert Camouflage blank



Measure the thickness of the walls – component Ø – tube Ø – to determine whether tubes need to be painted



Using a sander and jig to trim the blank

Trimming

Because of the brittle nature of some synthetics, I prefer to trim the blanks square to the tubes using a disc sander and jig. A sharp barrel trimmer, preferably of the six cutter type, can be effective on many materials but should be used with light pressure, which will help to minimise splitting and chipping.

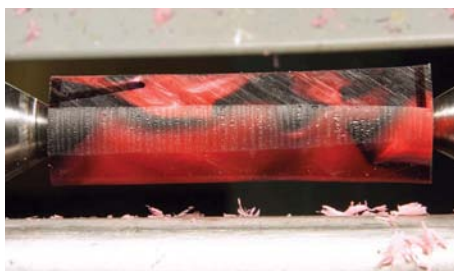


Using a barrel trimmer

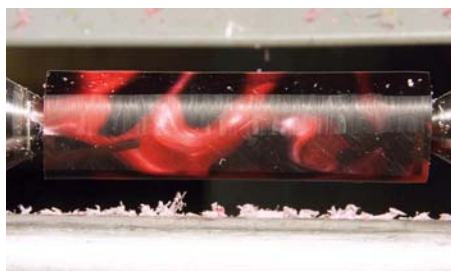
Turning

The photos overleaf show the chipping and irregular surface that results from too heavy a cut with a spindle roughing gouge; a much improved cut with the same tool using a lighter pressure and a reasonably fine cut made with a skew chisel. You can even hear the difference when the tool is cutting properly: there should be no chattering or tearing sound.

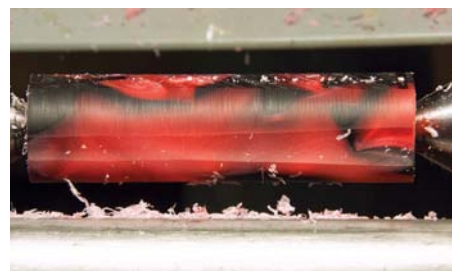
Once the blank is turned to round, the material will begin to come away in long strings of swarf. Do not allow these to build up as they not only prevent you from seeing what the cutting edge of the tool is doing, but they can cause heat build-up. It is easy to brush them away with an old paintbrush. Using an extractor with the inlet close to the workpiece will also help prevent build-up by drawing the swarf away from the cut.



Rough surface from a heavy cut with a spindle roughing gouge



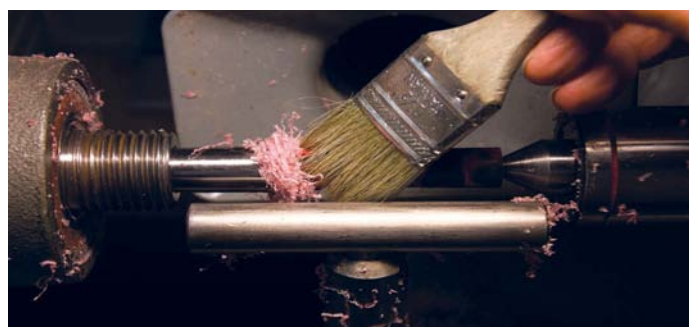
Better surface from a lighter cut with the same tool



Fine surface from a fine cut with a skew chisel



Swarf will begin to accumulate once the blank is turned to a cylinder



Brush away swarf with a soft brush

Tools

Acrylics can be worked with the same tools used for turning wood. Modern HSS tools are better than the old-fashioned carbon steel, and the TCT-tipped cutters, which are becoming increasingly popular, are also an excellent choice.

When using a spindle roughing gouge or spindle gouge, the basic principles of good tool technique, rubbing the bevel then lifting the handle until the tool just begins to cut and keeping the flute open in the direction of the cut will pay dividends in quality of cut obtained. Remember too that just as with a wooden blank, you should work out from the centre of the blank towards the ends

so that the bevel is always supported on the toolrest. Unsupported cuts from the end of the blank can cause chipping just as they do with end grain.

The 'rules' for using a skew chisel should also be strictly adhered to, keeping the cut in the bottom one-third of the bevel. You can also use a sharp skew as a negative-rake scraper with acrylics, but this does tend to rather quickly take the edge off the tool.

TCT-tipped tools work well, but remember that these are, in essence, nothing more than a very hard and durable negative-rake scraper and if used over zealously, can cause splitting of the blank. Used with lightness of touch,

however, they can produce a fine finish ready for sanding on synthetic materials. I find the simpler designs of these tools to be the most effective; some of the more complex designs, such as the Sorby Turnmaster, require too much overhang beyond the toolrest to allow the level of control I need. I also find the square or slightly curved cutters better than the round type, but do experiment to find the tool that suits your style of working best. What works for me may not be best for everyone.

Purpose designed negative-rake scrapers, such as the Sorby hardwood scraper, also work well and give a fine finish.



Using a spindle roughing gouge



Using a skew chisel



Using a TCT-tipped tool



Using a Robert Sorby hardwood scraper – negative-rake scraper

Sanding

When sanding acrylic materials it is vitally important not to generate too much heat. Slow speeds and a light touch will help but water-cooled techniques are even better at ensuring temperatures remain low. When wet sanding, always make sure to protect the lathe bed from water. This is especially important with some smaller lathes where the motor is mounted beneath the bed. Water and electricity do not mix.

Most abrasives used in woodturning can be used with acrylics. I prefer Rhynogrip

aluminium oxide for the coarser grades and Micromesh for the finer. The Micromesh pads can also be used wet and if used through the grits to 12,000, will give a polished finish.

Throughout the sanding process, but especially in the earlier stages with the coarser grits, it is important to alternate between sanding with the lathe running and sanding along the length of the blank with the lathe stopped; this will prevent the appearance of annular rings or scratches on the finished work.



Wet sanding keeps the blank cool

Finishing

Final finishing may be left at the finish produced by fine Micromesh, but my personal preference is to move from backed abrasives to polishing compounds for the final polish. Burnishing creams or plastic polishes, such as Farécla 500, give a very high

gloss and can be used once the blank has been sanded to about 600 grit.

A quick polish on a buffing wheel with white diamond compound will give a final gloss and remove the last of any annular polishing marks. ●



A Chrome plated PSI bolt action pen with GPS Agencies' Kirinite 'Desert Camouflage' blank

MINI TEST

GPS Kirinite pen blanks



There is a wide range of colours available in the Kirinite range

Kirinite is a registered trade mark of GPS agencies and is a material based on the same resins used in their acrylic range, but designed to be harder and more durable for knife handles and handgun grips.

I tested the material for its ease of use and effectiveness for pen making, in terms of drilling, cutting, threading and finishing. I found the material to be easy to work with normal turning tools. As with all acrylic materials, sharp tools and light cuts are required to produce a good finish but an exceptionally fine finish can be produced directly from the cutting tool.

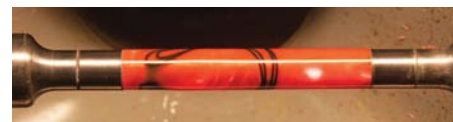
Drilling at a low speed and a low pressure resulted in clean exit holes with no chipping or splitting on breakthrough with either bullet-tipped or jobber drill bits.

Hand threading using HSS taps and dies produced clean threads, which appeared likely to stand up well to regular use.

The material sands and polishes well using either Micromesh abrasives or proprietary polishing compounds.

Verdict

Translucency is a problem with all acrylic blanks but these seem better than many. As can be seen from the photo, there is some slight show through of the brass tube on this thin-walled slimline pen blank but this is much less obvious than expected on such a light coloured blank and using light coloured or painted tubes will eradicate this. Thicker-walled blanks and darker colours exhibit no problems of translucency.



A Kirinite blank mounted on the lathe

DETAILS

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Tips for making & decorating a suspended situla on a scorched oak base

Andy Coates shares his tips for turning and decorating a suspended situla on scorched oak base

This project is the result of a medium, verdigris treatment, and an image from a book called *Situla Art*.

Here, I wanted to use the same kind of form but apply pyrography and decorative media to bring it up to date, and also suspend it on a base. I used a square block of oak (*Quercus robur*), which I scorched heavily and lacquered and a piece of copper rod that I treated with a patinating acid to age it.

You may decide that the decoration and pyrography are not to your taste, in which case, choose a blank for its figure, features, or natural colouring and abrade, seal and finish as necessary. Otherwise, choose a blank that is plain, knot free and close grained.

I chose to make this vessel in three parts as hollowing this shape through a small hole could be problematic and would certainly make the base section a difficult task. If you want to stretch yourself, then try making the same piece from a solid blank in one piece, although in truth, I don't know why you would, as the first method is much easier.

ANDY COATES



Andy is on the Register of Professional Turners (RPT) and is Chairman of the AWGB. He is a professional woodturner and has a workshop and gallery in Suffolk. He mostly makes

one-off pieces, but like any jobbing woodturner, is just as likely to be found doing small batch runs, antique restorations or any number of strange commissions. He also demonstrates and teaches turning.

cobwebcrafts@btinternet.com
www.cobwebcrafts.co.uk



PHOTOGRAPHS BY ANDY COATES

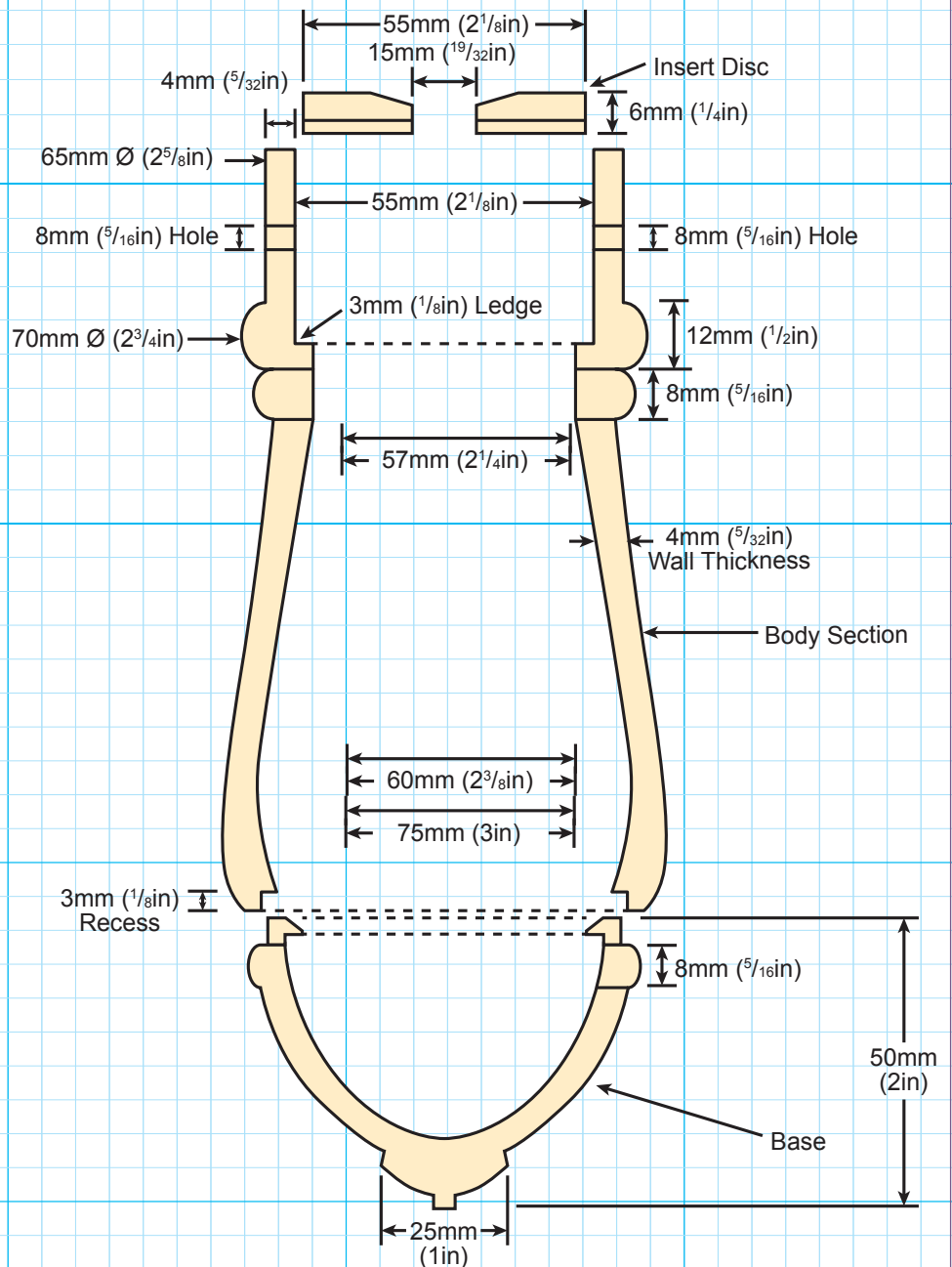
PLANS & EQUIPMENT

EQUIPMENT USED

Spindle roughing gouge
10mm bowl gouge
10mm spindle gouge
10mm parting & beading tool
2mm parting tool
6mm carbide hollowing tool
Jacobs chuck with 25mm Forstner bit on extension bar
Abrasives from 120-240 grit
Pyrography machine
Verdigris finish medium
As appropriate: cellulose sealer, oil and wax
PPE: facemask, respirator/dust mask and extraction

TIMBER REQUIREMENTS

Sycamore (*Acer pseudoplatanus*)
blank: 75 × 75 × 255mm



1 The first step is to mount your chosen blank between centres and turn to a cylinder using a spindle roughing gouge, working off the end of the blank and progressing backwards as you go. When you get to the headstock end, change orientation to work off the edge again. It is important to ensure you have a true cylinder with a clean-cut surface here

2 Once you've established the basic shape, you can then swap to using a 10mm parting & beading tool, which can be used to form a tenon to suit your scroll chuck on the tailstock end of the blank. Ensure the face surface is either flat or slightly concave and the side face of the correct depth for your chuck





3



4

3 The next step is to remount the piece using the tenon. Now turn a second tenon on the end of the blank, taking the same care as for the previous tenon. Mark 50mm along the blank and then carefully part this section off the workpiece and place to one side. It will eventually form the base of the completed piece

4 Next, form a tenon 55mm diameter × 9mm deep on the end of the blank. Using a 10mm spindle gouge, turn a cone into the centre of the tenon. Make it about 15mm diameter and to a depth of at least 9mm. Aim for a gentle curved cone



5



6

5 Abrade the surface down to 240 grit. If you do not intend to pyrograph and decorate the completed piece, you can also seal and finish with oil or wax as preferred. Now part off the tenon with a 2mm parting tool, cutting into the 9mm tenon and leaving a disc 7mm thick

6 Next, mark with a pencil at 28, 40 and 48mm from the end of the blank. To the left of the 48mm line part in with a narrow parting tool to a diameter of 58mm

7 Now mark a line at 65mm diameter on the end of the blank and another 4mm in from that. Turn the 28mm section down to a cylinder of this diameter. Now turn the beads to the side. The 12mm bead is at the diameter of the wood; the 8mm one is at a diameter of 65mm



7



8

8 You can then mark a line 137mm from the end of the blank. Mark a second line 10mm in towards the tailstock. This line marks the widest diameter on the base section of the completed piece

9 Using a narrow parting tool, make a cut 5mm deep to the left of the 137mm mark; this will define the base of the upper section of the completed piece. Using a long-ground bowl gouge or a spindle gouge, shape the blank between this cut and the parting cut to the left of the 8mm bead

10 Next you need to form the recess in the top section. This section will form the wall from which the hanging lugs are fashioned. The wall needs to be even at a thickness of 4mm. The line you scribed earlier is your guide. A 10mm parting & beading tool is ideal for this section



9



10

INSPIRATIONAL SOURCES

Look for inspiration for decorative text in various places, including:

- Anthologies of poetry
- Collections of quotes
- Collections of aphorisms
- Use encyclopaedias and the internet



11 Hollow the body out, remembering to leave a shallow lip of 3mm for the insert piece you finished earlier to sit on. The hollowing is far easier if you pre-drill the centre using a Forstner bit in a Jacobs chuck. Drill to a depth of 137mm from the end of the blank

12 Now hollow the interior using your favoured deep hollowing tool. Here I am using a 6mm carbide tool with a cranked tip. Undercut the 3mm lip and form the vessel walls to an even 4-5mm thickness. As you near the base, leave the wall a little thicker to allow for forming a recess for the base section later

13 Part off this section at the 5mm parting cut you made at the 137mm line. Reverse the piece on to the scroll chuck, clamping on to the top section that will form the lugs. If you are not decorating the piece, protect the surface with tissue paper or masking tape first. Now you can form a 60mm diameter x 3mm deep recess to accept the base section later

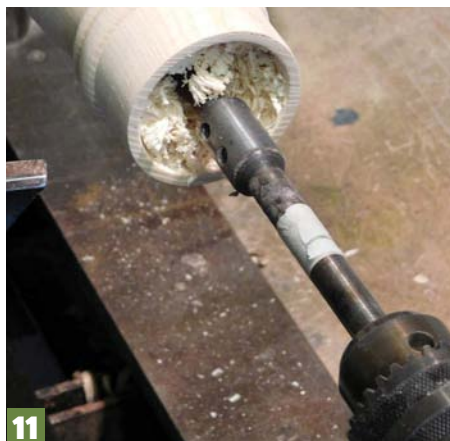
14 Remove this section from the chuck and mount the base section you formed earlier. Turn a 60mm tenon, 3mm deep on the end of the section and fit the body section to it. Use the tailstock and a support pad to hold the two pieces together. Using a 10mm spindle gouge, form the shape of the base section, adding the 8mm bead that disguises the join. Take the shape about two-thirds of the way

15 Remove the body section and hollow the interior of the base section using a 10mm spindle gouge

16 Return to the outside and complete the exterior shape as far as is possible. Leave a stub at least 20mm from which you will later form a central boss. Now mount the body section in the chuck and fit the base section on to the tailstock end

17 Using a 10mm spindle gouge, turn the waste wood away and complete the shaping of the base. If you have a tight fit between the components, you should be able to form the central boss with the tailstock removed. If uncertain, you can secure the joint with masking tape first. Take light cuts with a freshly sharpened spindle gouge until complete. Once done, you can abrade to a finish. When the base is completed, glue it in place with CA glue, taking care to align the grain. Allow to fully cure or use an accelerator to speed up the process. You can now abrade the finished piece. Remember that those decorating afterwards only need abrade to 240 grit, otherwise seal and finish as required

18 At the headstock end, mark where the lugs will be fashioned. Use your indexing system if it helps. The lugs should be about 25mm wide and opposite each other





19



20

19 Remove the project from the lathe. Using a suitable object as a template, mark a semi-circular top to the lug sections, mark the centres and then drill out using a drill size to match whatever rod you choose

20 Support the project firmly. Here I am using some Nyweb pad in a machine vice, then using a coping saw to carefully remove the waste around the lugs

21 Shape the top of the lugs either by carving or with the aid of a mini rotary sanding arbor. Clean up all the sawn edges at the same time, then abrade. Once completed, glue the insert disc into the recess, keeping the grain aligned as far as possible



21



22

22 The base I chose is a simple cube of oak (*Quercus robur*), which I have scorched heavily, brushed back to remove the carbon deposits and open the grain, then lacquered to seal. The hanging support is copper and has been treated with patinating acid to give it 'age'. I have chosen a shaped support form to allow for a smaller base block. If you do not intend to take the piece any further, you can add a final finish, then you're done

Adding pyrography

23 For those wanting to go on, pyrography is the next step. This is entirely personal and should be driven by your own ideas. Repeated patterns work well – try and form different shapes as well as texture. A wide range of pre-formed brands are available or you can design and make your own from nichrome wire. Use a smoke extractor throughout this step

Further enhancement

24 Some people are quite happy to stop at the pyrography stage, preferring the effect of the burnt and scorched areas with patches of raw wood. Or you may wish to use spirit stain, acrylics, or some other treatment



23



24

25 I will be applying a two-part chemical verdigris process – Modern Masters' patina. The first stage is to apply a bronze base coat. The advice is to leave this to cure for two hours. I find that if you leave it overnight, the results are greatly improved



25



26

26 The second stage also has to be left to develop for at least a few hours. At this point, the process is technically complete and may be left. I prefer to knock back areas of the patination using a Nyweb pad to reveal some of the bronzed areas. As ever, the choice is yours. There are dedicated sealers for this type of verdigris patination, but I have found them all to be detrimental to the overall effect and prefer not to seal the surface. The completed piece should look something like this ●

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King Arthur's puzzle

In this excerpt from his new book *Woodturning Trickery*, David Springett shows you how to make a puzzle based on the legend of 'The Sword in the Stone'

As this puzzle can be likened to the legend of 'The Sword in the Stone' – in this case it is a sword in a cone – it has been named King Arthur's puzzle. It is simple to make but very effective as a puzzle. The cone sits there, with the sword stuck in it. There are no obvious clues to help solve the problem of how to remove the sword. This is my kind of puzzle. Unfortunately, as the puzzle maker, you will understand exactly how this puzzle works; you will see the problem solved before being presented with that problem. You might not experience the magic of solving the puzzle, but you will instead enjoy all the fun of creating it.



DAVID SPRINGETT



David Springett's interest in woodturning began when he was a woodwork teacher. By reading every one of the few books then available, experimenting, practising and persevering, he slowly improved his skills. Since leaving teaching nearly 20 years ago, he has earned his living doing what he enjoys most, turning wood.

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EQUIPMENT USED

19mm spindle roughing gouge
10mm spindle gouge
12mm or 20mm skew chisel
Screw chuck
Piece of 3mm steel, e.g. the end of a small nail
Six 9mm pill magnets – slightly larger or smaller sizes are OK
Drill to match – or fractionally larger than – the magnet diameter
4mm drill

Dark brown spirit stain
Pillar drill
9mm dowel
Digital callipers
Range of abrasives
Wood stain
Small piece of felt or sticky-backed felt
Wood glue
PPE: facemask, respirator/dust mask and extraction

TIMBER REQUIREMENTS

100mm cube of sycamore

(*Acer pseudoplatanus*)
150mm length x 12mm square of a good close-grained hardwood, i.e. rosewood (*Dalbergia retusa*)

SUGGESTED LATHE SPEEDS

When turning the cone:

about 750rpm

When turning the stick:

about 1,250rpm

Preparation

- Cut a 100mm cube of wood. I used sycamore (*Acer pseudoplatanus*), which can be easily stained and turns extremely well
- Make sure that the end grain faces of the cube are cut parallel to one another and are cut at right angles to the sides. This is most important, as the holes which are to be drilled through from the side and the top must cross accurately
- For the dowel, cut a 150mm length by 12mm square of a good close-grained hardwood. For the finished piece, as I had a small scrap available, I used rosewood (*Dalbergia retusa*). For clarity, a lighter wood is shown being worked



Drilling and filling the block

1 Begin by marking the diagonals on one end grain face of the 100mm cube of wood to find the centre – A. Mark this as point A. Mark a centreline down one side grain face of the cube. Measure, from the end grain face with position A marked upon it, 45mm down that line then 3mm horizontally across. Mark this as point B

2 Set the block on the pillar drill with point A facing up ready to be drilled

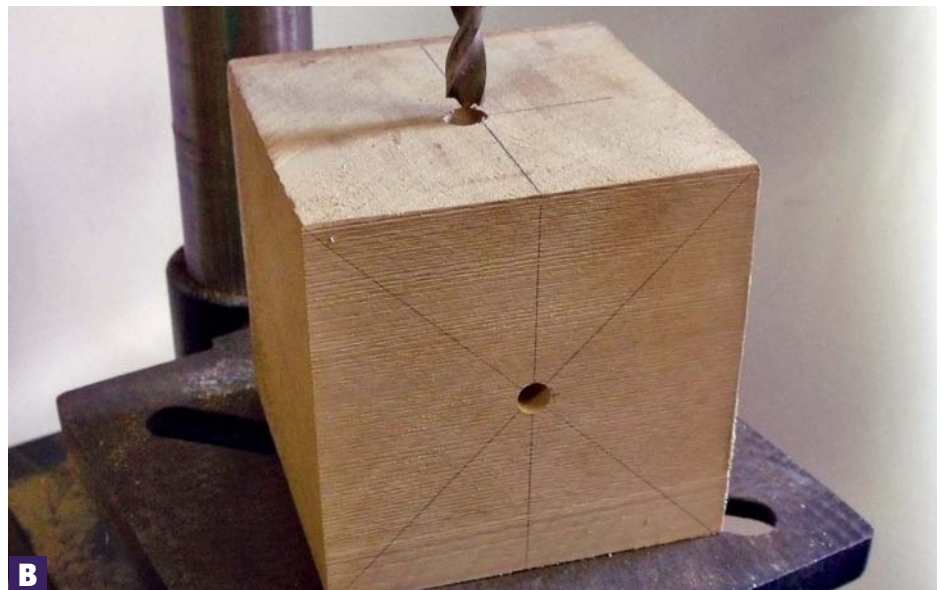
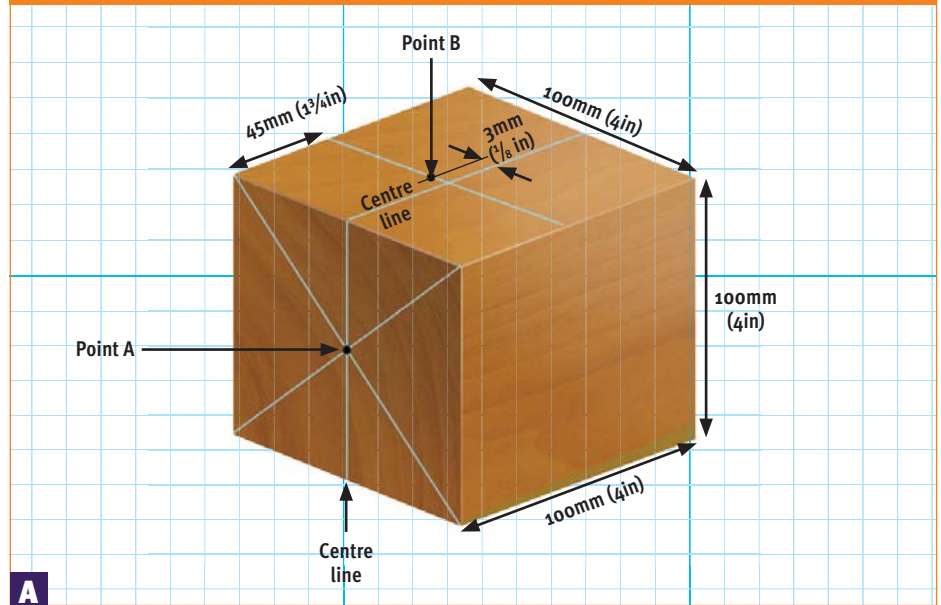
3 At point A, use a 4mm drill to drill down 65mm

4 Remove the small drill and fit a 9mm diameter drill, or one that matches the diameter of the magnets you are using

5 You can then counterbore point A to a depth of 37mm

6 Arrange the block so that point B can be drilled accurately. At point B, drill a 9mm hole through the block – B

PLANS



Drilling the 'sword' hole just off the centreline of the magnet and pin hole



C The block fixed to the screw chuck

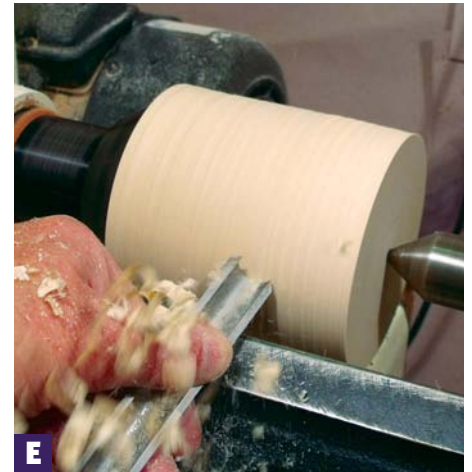
7 Fix the end-grain hole – point A – onto the screw chuck – C. Alternatively, an ordinary small faceplate can be employed, using substantial screws and making sure that the drilled hole is perfectly centred

8 Fix the chuck and block onto the lathe, supporting the end with a revolving centre at the tailstock



D A temporary, but tight, dowel is fitted into the 'sword' hole preventing edges breaking out while being turned

9 Using 9mm dowel – this is commercially available, or you can turn your own 100mm length on the lathe – plug the drilled hole at point B. This hole is plugged so that when the block is turned the edges of that drilled hole are supported, which prevents them breaking out. It is important that this plug, pushed through the hole, is a tight fit. It must not be glued in place – D



E The block is turned to a cylindrical shape

10 Trim the dowel level with the surface of the wood

11 Using a sharp 19mm spindle roughing gouge, turn the block down to a 90mm diameter cylinder, taking care when turning around the dowel area – E

Turning the cone



F Measuring the 25mm tenon. Note the dowel filling the 'stick' hole



G Turning the sloping side. Note that there is plenty of 'waste' wood close to the tailstock

12 From the headstock end, measure 60mm towards the tailstock. Mark a pencil line at this point

13 On the tailstock side of this line, turn down accurately using a parting tool to 25mm diameter – F

14 Using the smaller gouge, turn down from the full diameter at the headstock to the start of the 25mm diameter position, which is 60mm away – G. It's just like dot-to-dot turning; this will provide the correct slope for the cone

"I like to use the small gouge, but you may prefer to use a 12mm or 20mm skew chisel"



H The excess wood is sawn off



I The sloping side of the cone is turned to a point

15 Measure 85mm from the headstock end of the block towards the tailstock. At this point, saw off square. This will be the exact length of the finished cone – H

16 I like to use the small gouge, but you may prefer to use a 12mm or 20mm skew chisel. Whichever is used, continue to turn the angled slope of the cone, maintaining the same initial angle until it ends in a clean point – I

Finishing

17 Clean up the surface of the cone using various grades of abrasive paper

18 Damp the surface to raise the grain. The raised grain may now be sanded to provide a really fine finish

19 You can then remove the cone from the chuck

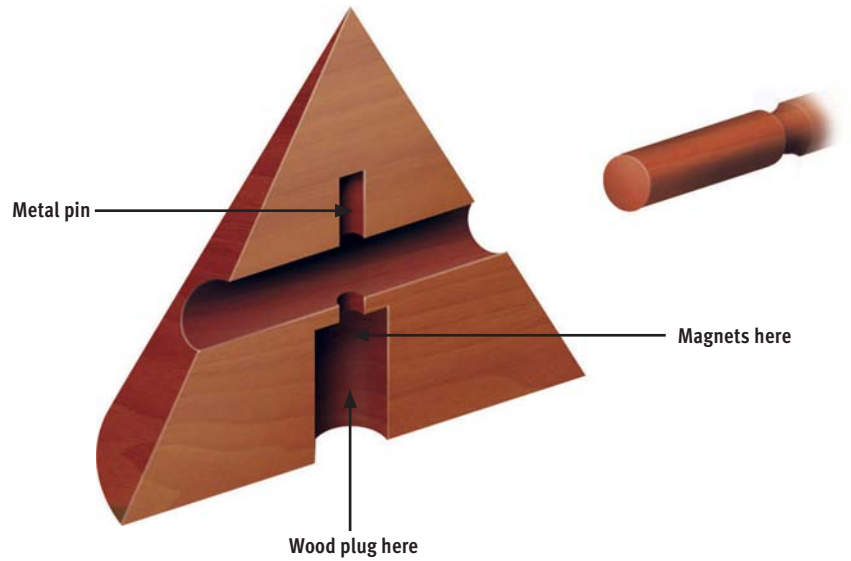
20 If you wish to stain this piece to create a richer, deeper colour, now is the time. When thoroughly dry, sand once more and reapply the stain

21 When dry, you are then ready to polish the work

22 Carefully knock out the dowel from the drilled hole, taking care not to damage the surrounding wood. Set aside

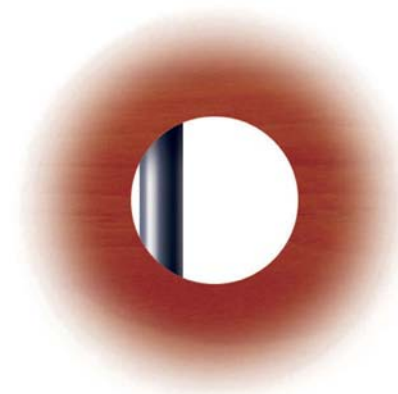
HANDY HINTS

1. Occasionally the 4mm hole can run off so before turning, push a long 3mm rod, or knitting needle, into the drilled hole. View through the cross hole and you should see the knitting needle on the edge of the larger hole. If the rod runs through the centre – or close to the centre – of the larger hole, don't be dismayed. Once turned, the stick can be pushed into the cone to the correct position and the 4mm drill can be run up the centre hole once again and through that stick. You can then remove the stick and lightly countersink the drilled hole on both sides. In fact, this will make the puzzle more difficult to solve as the rod will not revolve in the cone

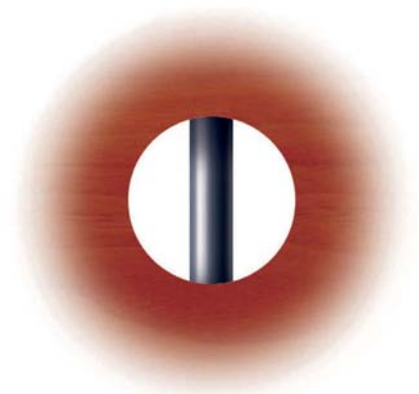


J

A cross-section through the cone



The pin can be seen offset to the side when looking through the 'stick' hole



The pin set in the middle when looking through the 'stick' hole

Turning the sword

23 Take the 150mm length of 12mm square close-grained hardwood and turn it down between centres to just slightly under 9mm diameter. It should be an easy sliding fit in the hole through the cone

24 If the 4mm hole runs through the centre of the cross hole, turn the sword as suggested on the handy hints panel. If the hole runs on the edge, work as suggested below

25 With the sword still between centres, at a point 60mm from one end, turn a small cove that will comfortably accept the 3mm diameter metal rod. There must be plenty of space around the metal rod so that the turned cove cannot grip and move the pin with friction. Make the cove extra smooth and slick



K

The cove in the spindle is turned out using a skew chisel

26 Now you may either part off or saw off both ends, remounting the dowel in a chuck so that each end may be turned clean. When remounting the dowel, use thin card to protect the work from jaw marks

27 Check that the pieces fit. Slide the dowel into the cross hole in the cone. Take a length of metal rod and push it down the hole in the cone base, checking that it runs smoothly across the cove which has been turned in the dowel – or through the hole drilled in the dowel

HANDY HINTS

2. For those of you who are not confident in your ability to turn a full-length of dowel, why not look in your local wood or tool store. You may find that they stock 9mm dowel made from good hardwoods

“When remounting the dowel, use thin card to protect the work from jaw marks”

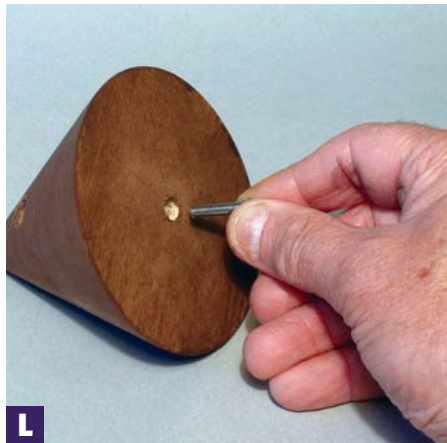
The magic ingredients

28 Cut a 15mm length of the 3mm steel rod. Holding the cone upside down – sword removed – drop the length of steel rod into the hole in the base of the cone. Jiggle it about until it falls through and across the 9mm hole and into its own hole. Looking through the cross hole, it should have disappeared completely. If it has, great. If not, then you need to judge how much is exposed then remove the pin and cut off that amount. Drop it in again and check, adjusting until it just disappears. Make sure the edges of the pin are filed or ground clean – L

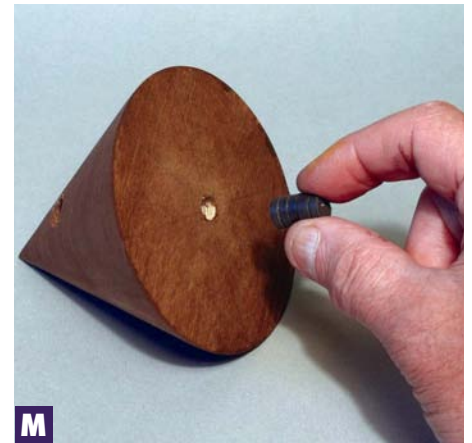
29 Take four or five of the pill magnets and push them right down to the bottom of the drilled hole – M

30 Take a piece of 9mm dowel and lightly glue around its edge, then push it firmly into the hole until it is snug against the magnets – N. Let the glue dry then cut the dowel off level with the base of the cone and clean it up smoothly. Use a small piece of felt or sticky-backed felt to cover the base. It conceals the dowel position and also allows the cone to sit smoothly on polished tables

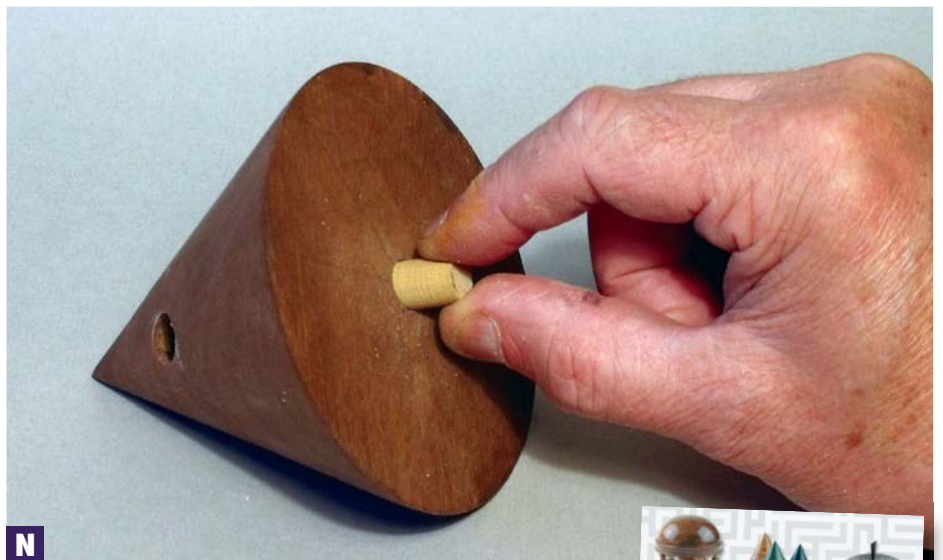
31 Turn the cone upside down and slide the sword through the hole. Next, turn the cone the right way up, and the pin – when it meets the turned cove in the dowel – will drop across, locking the sword in place. The magnets will hold the pin firmly in place even when it is turned upside down



Fitting the pin



The pill magnets are pushed into place



After the magnets have been inserted, the plug is glued in place

SOLVING THE PUZZLE

This can be a wonderfully frustrating puzzle. There the cone will sit upon the table, with the stick fixed through it just like the sword in the stone. If it is picked up, shaken, inverted, turned or twisted the stick will not come out. The only way to solve this puzzle is to take the cone with the sword in place, turn it upside down and firmly slap its base. This will jolt the pin off the magnets and back into its hole, allowing the sword to be withdrawn. Occasionally, when twisting the sword the friction of the turned cove will grip the metal pin and loosen its grip from the magnet. To avoid this, make sure that the turned cove is large enough, well rounded, well polished and slick, so that the pin cannot grip. Of course, if the pin goes through a hole in the stick this problem is avoided ●

WOODTURNING TRICKERY

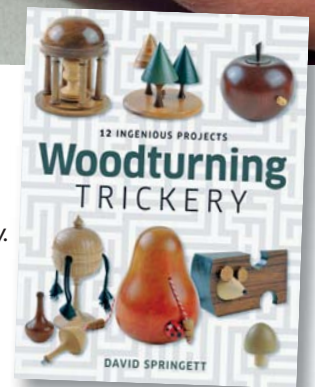
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Left: Osprey #1, 3/8" dia. shaft, 6 mm cutter
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Right: Osprey #2, 1/2" shaft, 8 mm cutter
£88.37 handled; £78.17 unhandled



Hercules & Mini-Hercules Roughing Tools

The very name Hercules gives a hint of what to expect of this mighty tool and its junior sibling! These tools work effectively in almost any application: roughing, bowl hollowing, deep hollowing and even spindle turning. The Mini is finding great favour as a universal roughing-to-finishing gouge for pen-making. Versatile and so easy to use. The definitive "point and shoot" woodturning tool!

Right: Mini Hercules, 3/8" square shaft, 6 mm cutter. £87.24 handled; £79.30 unhandled



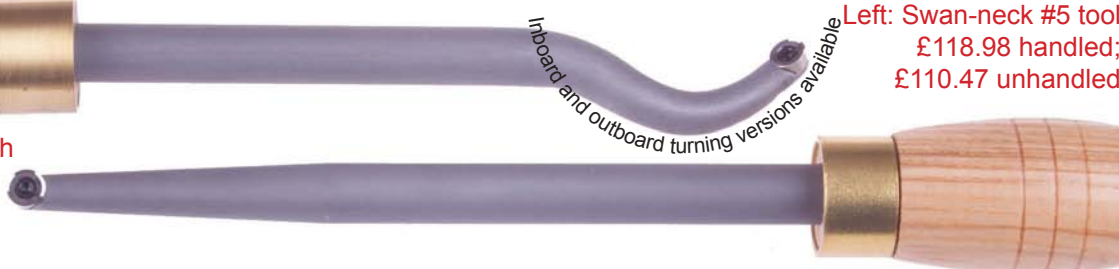
Left: Hercules, 5/8" shaft with 10 mm cutter. £93.47 handled; £84.97 unhandled

Jimmy Clewes Design - #5 Hunter Hollowing Tool

Jimmy Clewes worked with Mike Hunter to develop the Hunter #5, one of the most impressive tools you'll ever use. With its sturdy, 5/8" diameter round shaft the tool can be used to shear a cut to left or right, takes deep hollow forms easily in its long and strong stride and yet is sufficiently agile to make it a delight when turning bowls and creating in-turned rims - almost as versatile as Jimmy himself! Now also available with a swan-necked stem, in both inboard and outboard versions, to make getting into those hard-to-reach spots a whole lot easier - yet losing nothing of the heft and solidity of the original Clewes #5 Tool.



Right: Hunter #5 tool with 10 mm cutter.
£101.98 handled;
£93.47 unhandled



Left: Swan-neck #5 tool
£118.98 handled;
£110.47 unhandled

Mark St Ledger #1 Box Hollowers

Now guess what these little beauties are designed for (the clue is in the name!). And "designed" is the operative word: all built on a 3/8" tapered shaft, the straight tool does the main hollowing; the shearing swan neck tool cleans up the base and walls of the box and the brilliant back cut swan neck tool, with its brilliant skewed shear tip does a dream job under the shoulders of even the smallest forms.

Upper: #1 Back-cut, skew tip Box Hollower with 6 mm cutter, £76.47 unhandled; Centre: #1 Swan-neck Box Hollower with 6 mm cutter, £76.47 unhandled; Lower: #1 Straight Box Hollower with 6 mm cutter, £76.47 unhandled.
Set of three box hollowers, as above: £212.45 unhandled



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Dutch doll

Stuart King shows us how to make this fun Dutch doll using pinewood

Wooden Dutch dolls, sometimes referred to as 'Peg dolls' are a type of wooden doll with articulated limbs, originating from Germany and the Netherlands from the late 18th and throughout the 19th century. They originated as simple lathe-turned dolls – some were just whittled – from the Val Gardena area in the Alps. Sold undressed, young girls would then make their clothing from scraps of fabric. These dolls were made in various sizes, including examples as small as 10mm. As is often the case with 'folk art' these simple dolls started as a cottage industry and they exhibit a distinct naïve charm. Later they were made on a more semi-industrial scale.

My first encounter with a wooden Dutch doll was in 2000, when I was engaged by the BBC to set up a woodturner's workshop, to enable the filming of a short 'alternative' nativity film entitled *It's a Girl*. The actor John Thompson was asked to play the lead role of Joseph and doll-maker Eric Horne was commissioned to supply the doll, which I was given after the filming. This project is inspired by that doll – it still sits upon a shelf in my study.

The originals were somewhat lowly dolls made by, and mainly for, the working classes. The material was usually softwood, pine (*Pinus spp.*) that was easily obtained in the countryside. I, therefore, think that it is fitting I follow this tradition regarding material, so I have chosen a length of close-grained pinewood left over from a DIY job.

STUART KING



Stuart has spent a lifetime researching, recording and collecting anything about the rural past and today is a well-known artist craftsman, demonstrator, international lecturer and photo-journalist. He still actively records traditional crafts, and history via photography and video.

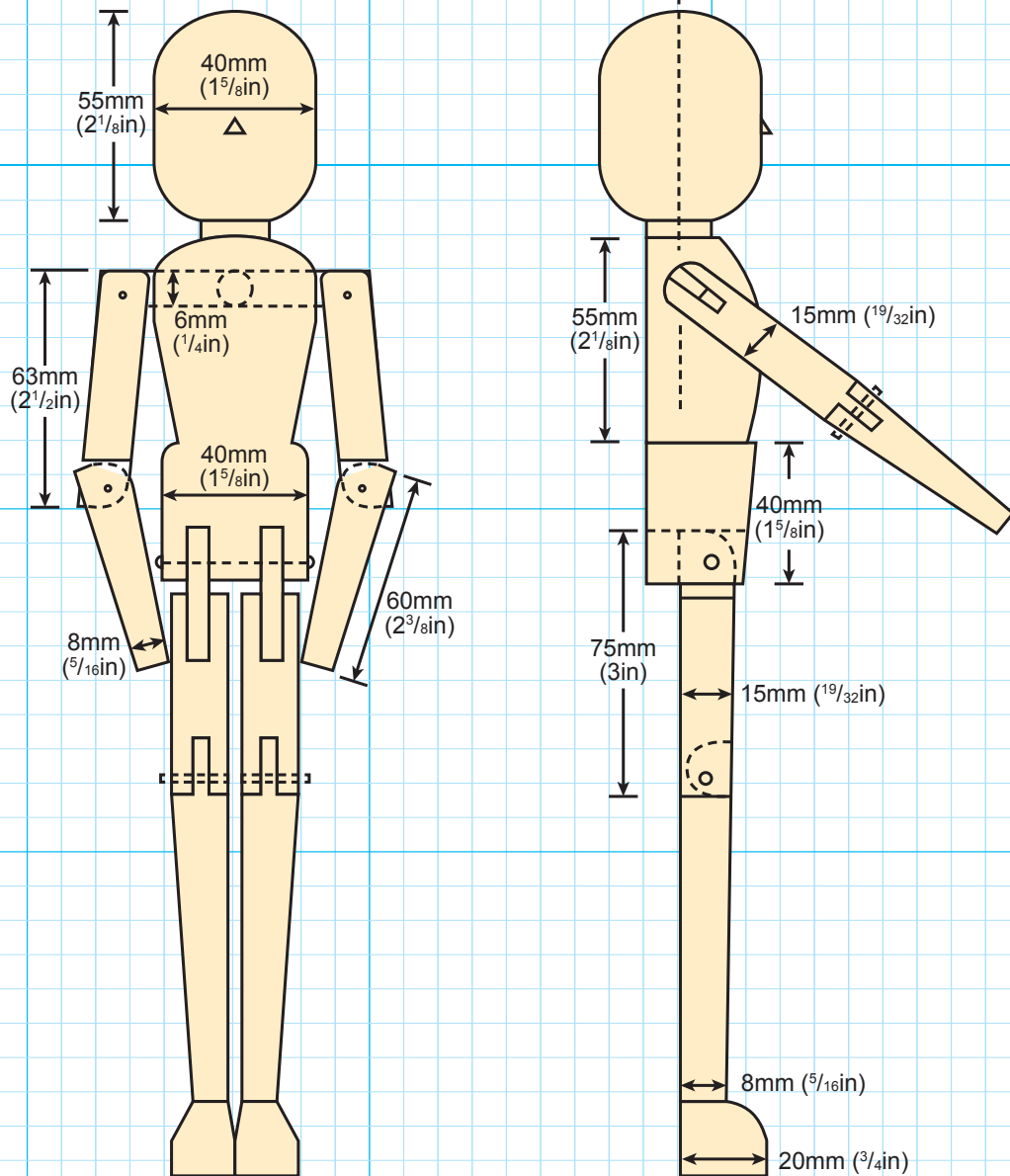
stuart@stuartking.co.uk
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PLANS & EQUIPMENT

EQUIPMENT USED

Spindle roughing gouge
Skew chisel
Narrow parting tool
Vernier callipers
10mm spindle gouge
Fine-tooth saw
Bandsaw
Belt sander
Sharp knife
PPE: facemask, respirator/dust mask and extraction

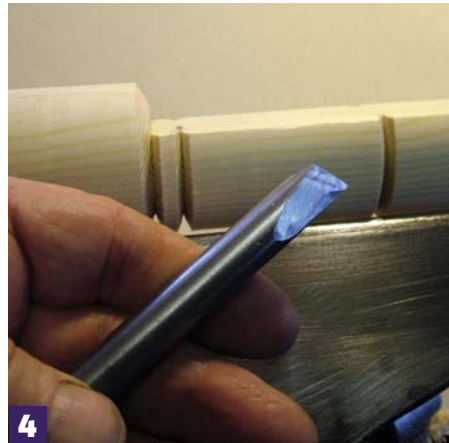


1 The first step, using the bandsaw, is to remove the waste from the back area of the body of your close-grained softwood blank but leaving the remaining length full size – approximately 45mm square allowing for a finished size of 40mm – for the head. Choose a piece measuring 170mm in length, which will allow for a clean parting off

“Choose a piece measuring 170mm in length...”

2 Using a spindle roughing gouge, turn the blank to a cylinder and part-cylinder



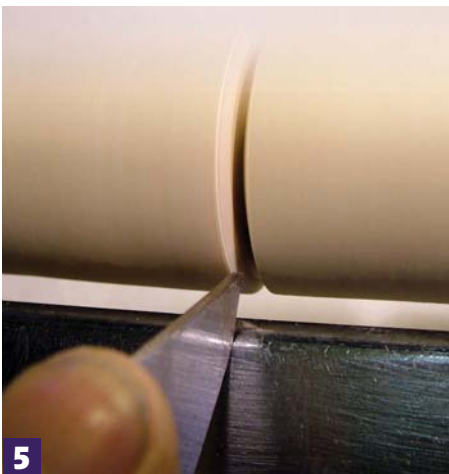


3 Next, make the main divisions with a 'V' cut using the long point of a skew chisel

4 To make the 'V' cut, be sure to use the skew that you are most comfortable with

5 Using the dimensions on the drawing – see opposite – make a cut of the indicated diameter with a narrow parting tool. For safety reasons, because of the 'flat' area on the blank, measure with Vernier callipers while the lathe is stationary

6 The next step is to taper the doll's waist with a 10mm spindle gouge



7 Plane this area with the skew chisel. Angle the chisel so that it is the bottom half of the blade doing the work

8 You can then create the 16mm neck with a 6mm parting tool

9 Use the long point of the skew chisel to remove thin shavings. This will achieve a nice clean finish on the shoulder of the doll, which will make for easier sanding

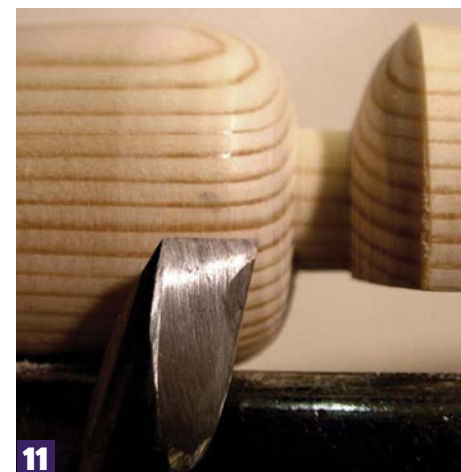
10 Again, using the skew in 'short point mode', proceed to round off the outer portion of the rounded head section. If you are 'skew adverse', then use your preferred alternative tool



11 Now to pick up where you left off on the shoulder of the doll. Use the 'long point' of the skew chisel to complete the rounding to the neck

HANDY HINTS

1. Upon completion of this doll the recipient can then clothe it in period style clothing or bring her up to date with a modern outfit – perfect for a granddaughter
2. If the doll is to be made as a 'toy' rather than an ornament, please ensure that any colouring and decoration is 'child safe'





12

12 Repeat the process for the top of the head and then with a thin parting tool, part off to about 3mm. Similarly, do the same at the other end. With a fine-tooth saw take off the spigots and clean up the scar



13

13 As the arms of the doll need to pivot, drill a 5mm hole through the shoulders; this will allow you to accommodate the spindle on which the arms articulate



14

14 This project is essentially a spindle turning exercise with the limbs being a straightforward item. Here the foot is left square in section with the top turned convex in form



15

15 Use a belt sander, or alternatively a sharp knife, to achieve the correct shape



16

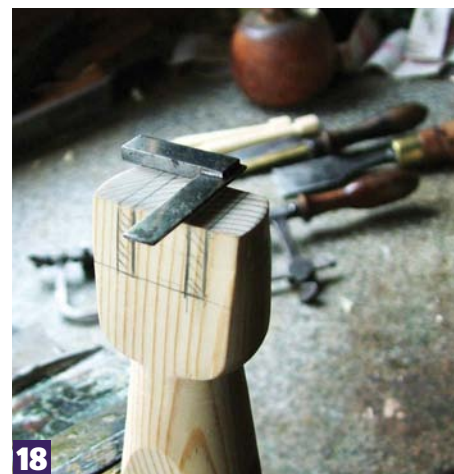
16 The photo here demonstrates the belt sander in progress

17 This is how your completed components should look so far



17

18 Next, sand the flat areas of the chest and tummy on a belt sander. Now it's time to look to the moving parts. Articulating the limbs requires non-woodturning skills. Begin by marking out the relevant joints – a small square is useful for accurate marking



18

19 Use a fine-tooth saw for cutting the joints. I used a small ancient 'Gents' tenon saw with the 'set' ground out to give the thinnest possible cut

20 Complete the tenon with the blank clamped firmly



19



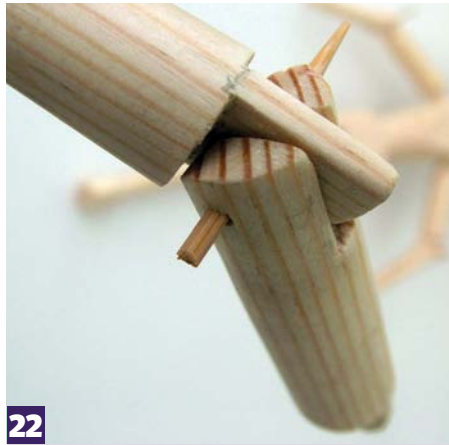
20

HANDY HINTS

3. Googling 'wooden peg doll' will provide more choice regarding face details. The early faces tend to be rather 'prim and proper' with many looking rather austere, but it depends on what you prefer! The key words 'Dutch doll' will elicit more than you might wish to peruse!



21



22



23



24



25



26

21 You can now cross-cut the base of the 'open' tenon using a fretsaw blade, while holding it in a piercing saw frame

22 A good tip is to try using cocktail sticks to create the hinges – this is a typical and simple joint

23 Trim off the protruding ends of the cocktail stick and apply a small drop of glue to one of the outer areas and then sand flush. Now I know how Geppetto felt when he created Pinocchio!

24 One small traditional feature was the nose – much smaller than Pinocchio's! Drill a tiny short hole and plug with a short section of turned dowel, leaving just a short section protruding. Whittle with a knife and sand

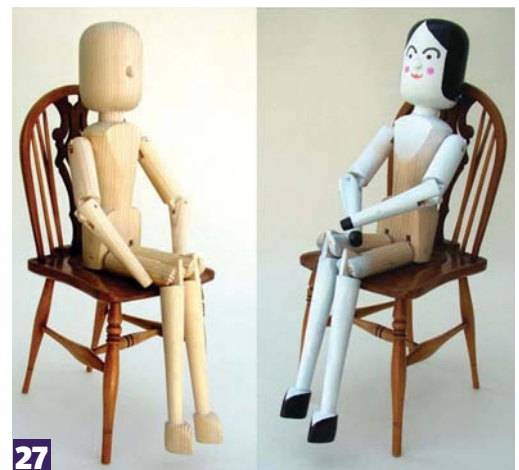
25 The doll is now almost complete, but it is lacking a personality

26 That's better, a full make-over. After applying a coat of white acrylic paint to the head, shoulders and limbs I used good quality paint pens that won't fade to provide our Dutch doll with her own unique character, and a new found friend, Lilianna King

27 The doll before and after her makeover. Any design can be used on the doll, the choice is yours! ●

HANDY HINTS

- 4.** Turning softwood requires sharp tools to avoid tear-out; this is good practice for your spindle turning expertise. 60 grit abrasive may remove tear-out but will reduce the diameter and detail, so is therefore best to avoid!
- 5.** Street entertainers used to make these dolls with loose joints. To do this for yourself, simply insert a stick in the back and make them tap-dance on a board. Try it and earn a few pennies!



27



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Exploring milk paint

As **Kurt Hertzog** explains, milk paint will give you another creative colouring and texturing outlet to incorporate into your turnings

PHOTOGRAPHS BY KURT HERTZOG



KURT HERTZOG
Kurt is a professional woodturner, demonstrator and teacher and writes for various woodturning and woodworking publications in the United States as well as writing for *Woodturning* magazine. He is on the Pen Makers' Guild Council and is currently president of the American Association of Woodturners (AAW).

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Depending on which historical source you believe, milk paint has been used for over 20,000 years. Early cave drawings and paintings were done with the same simple milk paint composition used today. Then as now, it consisted of milk, lime and earth pigments. Tutankhamen's burial chamber contents, boats, furniture and carved wooden servants were painted with milk paint. With the invention of the metal paint can and tight fitting lid in the 1870s, the era of modern oil-based paint grew to become mainstream. Milk paint never completely disappeared but had fallen far into the background. With the modern movements towards 'green', there has been a resurgence of interest and use of milk paints driven by a combination of nostalgia, an all natural absent of VOCs and the craft revolution.

In a different direction of adding colour to your turnings, we'll explore the basics of milk paint. We will look at both the traditional formulations and the more modern implementations. From making your own milk paint to creating some very artistically decorated turnings, milk paint will give you another creative colouring and texturing outlet to incorporate into your turnings.

Safety

Always be aware that handling chemicals of any kind should be done with proper PPE. Proper eye protection, handling gloves and breathing dust protection is always

key along with all other safe handling recommendations from the manufacturer. Read and follow all of the safe handling and use instructions for your well-being.

Making and buying

Making your own milk paints is beyond our scope here but be aware that it is easily done with readily available components. Milk from your grocer, lime from your garden supply seller and earth pigments from many of the speciality producers and sellers will let you create your own. It isn't tricky or too time-consuming. Feel free to give it a try if you want the freedom and nostalgic feelings it



Your local woodturning retailer or Internet supplier will usually have a selection of both the traditional milk paints along with the modern latex versions

can provide. You can choose to work with plain milk or go down the path of creating Quark by curdling the milk. Either way, you'll be able to produce milk paint as it has been done for centuries. There is plenty of information on either method readily available via the Internet.

The traditional milk paint formulations are available from a variety of suppliers through the mail order or your local retailer. They are delivered in a paper sack containing the milk paint powder enclosed in a sealed plastic wrap. Your task is to add the water and mix. The brands I'm familiar with have colour charts available at the merchants as well as a colour swatch on the top of each bag of product. Two things you will need to note about colour. Being made from earth pigments, there are potentially some

variations in colour from batch to batch and even bag to bag. While not catastrophic, do be aware that this is a natural product with some inherent variation potential. Also, there isn't the same colour palette and fine colour control you've come to expect from the modern paint store. Most of the manufacturers produce a limited number of colours. This is easily overcome as you can mix the various available colours to create your own desired hue. Should you wish to delve into it in more detail, the earth pigments themselves are available for you to mix with white milk paint. You can also use earth pigments to alter existing colours by blending them as your colour needs dictate.

Milk paint goes pretty far so you don't typically buy it in large quantities. The packaging will provide the estimated square

footage of coverage when mixed per the manufacturer's recommended formula. 170g of powder, a common available package size, mixed with water produces approximately one pint. That will usually provide coverage for 35sq.ft.

For those not interested in making their own paint or mixing powders, there are modern versions of milk paint available. Not technically a true 'milk paint', containing no milk, but a modern latex paint quite capable of very similar results. If you are in need of very repeatable colours and a fairly extensive colour palette, these modern versions simulating milk paints will let you open the can and enjoy the benefits that a modern paint factory can provide to you. These are also mixable to blend colours that aren't provided as a stand-alone choice.



The traditional milk paint colours are often painted right on the packaging. By their nature, they are matt and usually traditional colours



Modern latex versions of milk paint have a more extensive colour selection and are often more of a semi-matt or gloss

Brand choices

My intent is to open your horizons to using colours and techniques available with milk paint. There are many brands of milk paint powders on the market as well as the modern latex 'milk paint' products. Because this article is about technique and not brand critique, my illustrations show the two brands that I personally use and am most familiar with. They are well-known and respected brands that are both readily available at my local retailer. While I enjoy working with each of these and am pleased with their results, please do not construe their presentation here as promotion of them over the other brands that are available in the marketplace. Your area merchants may have these or other brands available for your selection. Get their advice and select the brands that you wish based on that advice or your own experimentation.

Preparing the paints

If you have opted for the canned version of modern milk paint, your preparation is identical to other canned paint products.

Be certain to mix well by shaking and stirring. You'll need to thoroughly mix any components that may have settled to the bottom. I find that the only way to be certain all settled materials are incorporated is to mix and stir with sticks. Shaking helps but until you stir across the bottom and into the corners, you aren't certain you've mixed thoroughly. Once completely mixed, you are ready for application of the paint. You can thin the viscosity as needed by mixing in additional water. This is especially important if you will be spraying the paint. Airless, HVLP or traditional paint sprayers will require different viscosities so tailor your paint to your specific spray mechanism recommendations.

For the packaged milk paint powders, most have very similar instructions but be certain to read those for your specific product carefully. Follow their advice for best results. My experience with my particular brand is to open the sealed packaging carefully in order to minimise spillage and airborne dust. I tend to snip off just the corner below the heat seal to allow me to dispense the powder carefully.



Modern latex versions of milk paint have a more extensive colour selection and are often more of a semi-matt or gloss

I can also roll the bag back up to seal it well before storing it in a glass jar. I mix my paints in either cleaned plastic margarine containers or purchased plastic containers. You certainly can use cups, glass jars or other containers that suit you. My choice is based on the size, inert material, tight fitting lid and easy reach for mixing with no difficult corners. You'll appreciate the tight fitting lid when you are using the paint all day as well as when you store it overnight in the refrigerator. Because your mixed powdered milk paint has a very short shelf life, you should always mix just enough for your immediate needs. You can measure or weigh but milk paint is very forgiving. Put your best guess for powder into your mixing/short-term storage container and then add water. The amount of powder to water is usually in a 1:1 ratio by

volume. Some brands will recommend a 1:1.5 powder to water ratio. It is a starting point since you'll tune it for your needs. Use warm water and begin by adding the water in small amounts while mixing. Mix with your chosen implement whether a plastic spoon, ice lolly stick, clean chopsticks or other implement. Create a slurry and continue to slowly add water while mixing until you get to the consistency you want to paint with. You'll get a feel for the viscosity needed. Too thin and it will run and not cover well. Too thick and it won't flow well. Gone too far with the water? Just add some additional powder. There is no such thing as over mixing. You can mix as long as you are willing. Some other items that work very nicely to mix and blend are submersible gravy blenders, milk frothers and mixing whisks. There are

even mini stainless steel whisks available. Select and use tools you can dedicate to your painting. Even though you can clean your mixing tools, applicators and containers with soap and warm water, I recommend that you never use them for food service again after using them for paint. Just a safety precaution. Should you find you want thinner or thicker, you can easily alter your mixture on the fly as needed. If you are going to spray your paint, you'll be using the sprayer viscosity cup to determine the proper dilution. Regardless of your application method, once your paint has been mixed to your viscosity needs, set it aside for 15 to 20 minutes prior to using. After this 20 minute rest for the paint, stir again to be certain it is uniformly dispersed with colour and free from thick areas.



Traditional powder milk paints are sealed in an air-tight package. Careful opening allows for resealing to help with long term storage



My preferred mixing containers are plastic with a tight sealing lid. No difficult corners when mixing and good sealing for overnight storage



Most powder to water ratios are 1:1 or 1:1.5. Mix your powder with warm water adding the water in small quantities until desired viscosity is reached



Depending on the quantity to be mixed, ice lolly sticks, whisks, milk frothers and gravy blenders can be brought to bear

Preparation for and applying paint

Milk paint loves to be painted on to bare wood. It will wick into the wood and give you a bond that will take a chisel to separate. Prepare your surface for painting by sanding to the desired grit and cleaning away any dust. Because milk paint will completely obscure the surface, you don't need to sand to 400. Sanding to 220 is more than adequate

with cleaning afterwards. Tack cloths aren't recommended. You can blow away the debris with compressed air or use a 50/50 mix of denatured alcohol and water on a cloth to clean the surface. Once dry, you can apply your first coat. No primer or other treatment is required beforehand. Regardless of the brand or type of milk

paint, you can use almost anything to apply it. Depending on the size of your project, you can select anything from acid brushes to industrial paint sprayers. Regular household paintbrushes do nicely as do machinist's chip brushes. You'll find that foam applicators work very well too. Because milk paint is water soluble and cleans up easily with

◀ warm water and a bit of soap, you need not fear using good brushes provided you clean promptly after use.

Apply your first coat in even strokes with the goal of not revisiting any area. Trying to 'fix' areas will lead to trouble. Keep your



Milk paint can be applied with almost anything. The cheapest acid or chip brush to the finest artist brush will work. Properly thinned, it can be sprayed

wetted edge moving forward and apply liberally as you go. The paint will flow out and there is no need to cover in one coat. You'll be adding multiple coats so don't agonise over areas that show through. Let the painted surface dry for a couple



Milk paint loves bare wood. Once dried into the pores, it becomes nearly impossible to remove. Your lathe is a great workholding tool

of hours. This depends on the temperature and humidity but a couple of hours drying time is a good starting point. It will feel dry to the touch very quickly but don't succumb to the temptation of beginning your second coat too quickly.



Milk paint often requires more than one coat. Plan on it and just apply generous even coats without touching up

Additional coats and more

Once you've given your prior coat a couple of hours to fully dry, feel free to apply your next coat. This process can be repeated as many times as you need to get the coverage you want. Apply a generous coat letting it flow out and continually progressing without retouching. Let dry and repeat if desired.

Single colours work fine but the beauty of milk paint is the rustic look, which is achieved by using two or more colours. A base colour that would appear much like a primer colour is used with a contrasting colour painted over the top. That top colour is distressed enough to show the colour

underneath. The areas for distressing, often simply sanding, are areas that would be high wear in repeated use. You can create that well-worn antique look with freshly applied milk paint using the proper technique. No need to wait for those many years for the paint to wear through.



After about two hours, depending on temperature and humidity, you can apply your second coat whether the same or another colour



The key to success with milk paint is patience. Repeat coats to build to the coverage and thickness you desire



With a two-colour painting, a light sanding in areas that would be high wear will produce a rustic, well-worn look without years of waiting

Storage of milk paints

The canned versions of latex style milk paints are stored standing upright, tightly sealed, and kept above freezing. Should they thicken over time, you can rejuvenate them by adding and mixing in water. Mixed traditional milk paint has a very short shelf life. Depending on the brand and to whom you listen, it can be overnight to a week. I've been successful at keeping milk paint usable into the next day by

covering it tightly and storing it in the fridge. Of course, it needs to be warmed the next day prior to use. The paint will require mixing again and may require additional water. Because I plan and work in small batches, I've never had the need to store longer than overnight. On long projects where I am using a certain colour over extended time, it is only the remnants of the latest batch that might be in storage overnight.

My recommendation is that if you need to store longer than that, you are mixing far too much at one time. Mix in smaller batches and don't use anything older than a day or two on a project you care about. Unmixed powder milk paints should be stored sealed from the air in a glass jar or well sealed plastic bag. Keeping them from air, light and moisture will let the powders keep almost indefinitely.



Sealing a paint can well will provide years of shelf life. Never hit it directly with a hammer. A piece of wood will prevent damage to the lid



Milk paint powder will keep indefinitely if you seal it well keeping it from heat, humidity and light. The original packaging in a glass jar works well



Storage of mixed milk powder paints is best done in a well sealed container. My mixing containers can be sealed and stored in the refrigerator overnight

Distressing



Once you get started with milk paints, the techniques to age, antique and distress them will provide you with plenty to explore



A top coat being applied that will be flecked once completed and dried. There aren't any hard and fast rules. Experiment

One of the neatest features of milk paint is how it looks when old and well worn. If you don't want to wait for the 20 or 30 years of wear to occur, you can give it a hand by distressing it. If you've opted for a colour over a colour and want to wear through the top colour, a light sanding in certain areas that would see high usage with 180 or 220 grit sandpaper will do the trick. Go easy since it is not difficult to wear through both colours if you aren't careful. One trick to help minimise wearing through the undercoat is to apply a protective clear coat over it prior to the addition of the second colour. Your protective coat should be clear and can be relatively thick providing you

plenty of protection from sanding through the base colour and showing wood. A caution on your selection of clear coat: nearly anything will adhere to your base colour of milk paint but your second colour of milk paint may not adhere well to your clear coat. Milk paint will stick well to other milk paint and to porous surfaces. If you put some type of a slick coat over the first colour, your next milk coat colour may flake off after application. It will do this selectively and randomly. It is an effect you can take advantage of if you wish but if you don't intend for it to happen, you'll need to scuff your barrier coat to provide tooth for the next application of milk paint.

Once you've sanded the corners that will wear quickly, you can protect your milk paint finish with a top coat of protective sealer or just leave it alone. Without any additional covering, you can expect a properly applied milk paint to wear but to last for many years. Used for indoor use as intended, some examples of milk paint have maintained their colour integrity and surface soundness for more than 2,000 years. If you do decide to use a surface treatment for your milk paint, I recommend a satin finish. Traditionally, milk paint exudes a quiet, rural and functional feel. A high gloss, deep look down into type of finish certainly will move a milk paint finish from the traditional place.

Special tricks

You can create a 'peeling' look by flaking off your milk paint surface to expose stained or plain wood beneath. The easiest method to accomplish this is to apply a finish beneath your surface milk paint coat. That surface, depending on the amount of tooth, will shed the surface coat of paint in flecks. You can help the flecking with light use of a putty knife. Once you've achieved the desired look, you'll need to seal it all to lock things in place and prevent additional peeling or flecking. A satin finish top coat of your choice will work nicely for this. You can cause very specific and localised flecking by using some hard wax prior to your surface colour of milk paint. By rubbing a hard wax in the areas where you don't want adhesion, you

can cause the shedding of the surface coat to take place in very specific areas. Cover those areas with a few strokes of the wax bar prior to painting your top colour of milk paint and then coax the paint to flake off with your putty knife after drying. You can use beeswax, carnauba wax or other stick wax you can rub on the surface. A top coat of clear over the finished project will seal things for the long haul. If you want crackling or crazing, there are coatings you can apply between coats that will cause crackling of the top colour of milk paint. In addition, there are a host of glazes, waxes and other special treatments you can bring to bear on milk paints. Once you've got the basics under your belt, you'll certainly want to explore those.



My two 'go to' products. Antique crackle to help control cracking of a surface coat and high performance top coat used as a separator and a top finish

Additional tips and tricks

Here are some additional ideas to help make your milk paint and general painting and finishing a bit easier.



Recrimp cheap brushes prior to use to prevent the shedding of bristles. Milk paint is very forgiving but why deal with stray bristles?



Need a spacer and holder to do the outside of a bowl? Some double-sided sticky tape on the lid of the right sized jar will work nicely



Using aluminium foil in a small dish for your paints and chemicals allows for easy cleanup after a project



Aluminium foil also lends for easy, mess-free pouring of excess back into the container

Conclusions

Is milk paint for you? Depending on what you turn and who your audience is, perhaps, perhaps not. For the rustic look, milk paint can't be beat. Traditional tables, chairs and stools lend themselves admirably. Umbrella stands, hall tables, Windsor chairs, most types of stools and more also lend themselves to the milk paint look. Don't overlook the functional bowls and any 'antique' looking articles needing a finish. The ability to put a very durable finish on your turning with such a simple process is very attractive. Once applied and dried, it is one of the most durable finishes you'll ever find. Short of mechanically abrading away, there is only one chemical I'm aware of that will even begin to help strip milk paint and even that

doesn't remove it. It only makes it possible to begin to strip it mechanically. The unmixed milk paint powders' indefinite shelf life certainly has an advantage in my workshop. The modern latex versions are also easily kept providing you keep them well sealed and above freezing temperatures. Milk paint with water cleanup, no smell and a pretty extensive colour palette makes it a winner. Mix and match traditional and modern milk paints. I've done it with no ill effects. Experiment! Colouring can be another way for you to express your talents in addition to the turning. Milk paint is another method to add some colour to your work. I think you'll enjoy it once you've given it a try. ●



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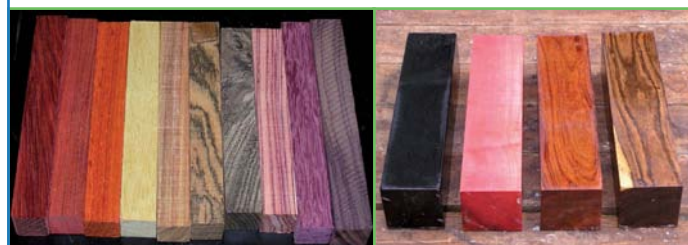
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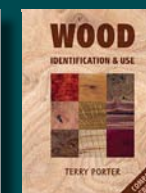


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In the latest article in his series on local timbers, **Bob Chapman** turns and textures a suspended vessel in sycamore

PHOTOGRAPHS BY BOB CHAPMAN



Sycamore vessel

BOB CHAPMAN



After teaching chemistry for many years, Bob took early retirement to become a professional woodturner, and is a member of the Register of Professional Turners. He was a demonstrator at the 2009 AWGB Woodturning Seminar and is available for commissions.

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On 1 March 1834, six agricultural workers banded together to withhold their labour in the face of a wage cut that would leave them destitute. They had held their meetings beneath a sycamore (*Acer pseudoplatanus*) tree growing on the village green of Tolpuddle in Dorset. They found themselves in the dock at Dorchester Assizes, facing a hostile judge and jury. The purpose of the trial was political; to attempt to suppress the infant trade union movement. The six were convicted and given the maximum sentence allowed – deportation to Australia. The men became known as

the ‘Tolpuddle Martyrs’ and a petition of a quarter of a million names resulted in their pardon in 1836. They eventually returned home to a heroes’ welcome seven years later.

The sycamore tree, now known as the Martyrs’ Tree, still stands in Tolpuddle. It is believed to have started life in the 1680s and was already about 150 years old when the martyrs used it as their meeting place. Now more than 300 years old, it is thought to be the largest sycamore in Dorset and has been named as one of the 50 ‘Great British Trees’.

Sycamore trees are to be found everywhere in Britain. They are among our most

prolific trees and although familiarity may not necessarily breed contempt, it may at least lead to indifference. Sycamores may be unremarkable because they are so numerous, but their very predominance means that they exert an enormous influence

on the landscape. Look at any wooded valley and the view is likely to be shaped, at least in part, by sycamores. It is less common to find sycamores deliberately planted, but at Holker Hall in Cumbria, I came across a line of sycamores that is so straight it's hard

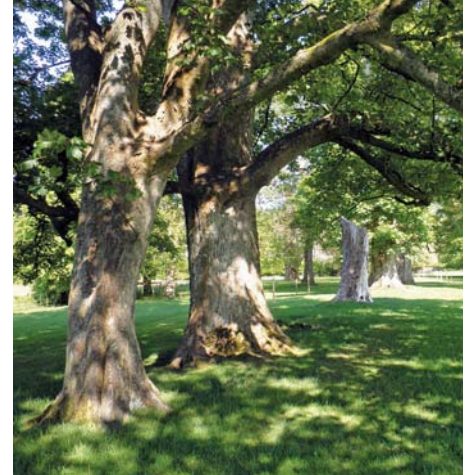
to believe it could have arisen by chance. Straight lines usually indicate deliberate planting. In the middle of the row is the dead stump of one of the trees but there is no sign of what might have caused such massive damage. Lightning, perhaps?



The Martyrs' Tree in Tolpiddle, Dorset



Sycamores are one of the most commonly found trees in Britain



Line of sycamores at Holker Hall, Cumbria

A suspended vessel

The basic principle of a suspended vessel is simple – a vessel suspended on three or more legs. However, within that simple description there lies a multitude of opportunities for different approaches and designs.

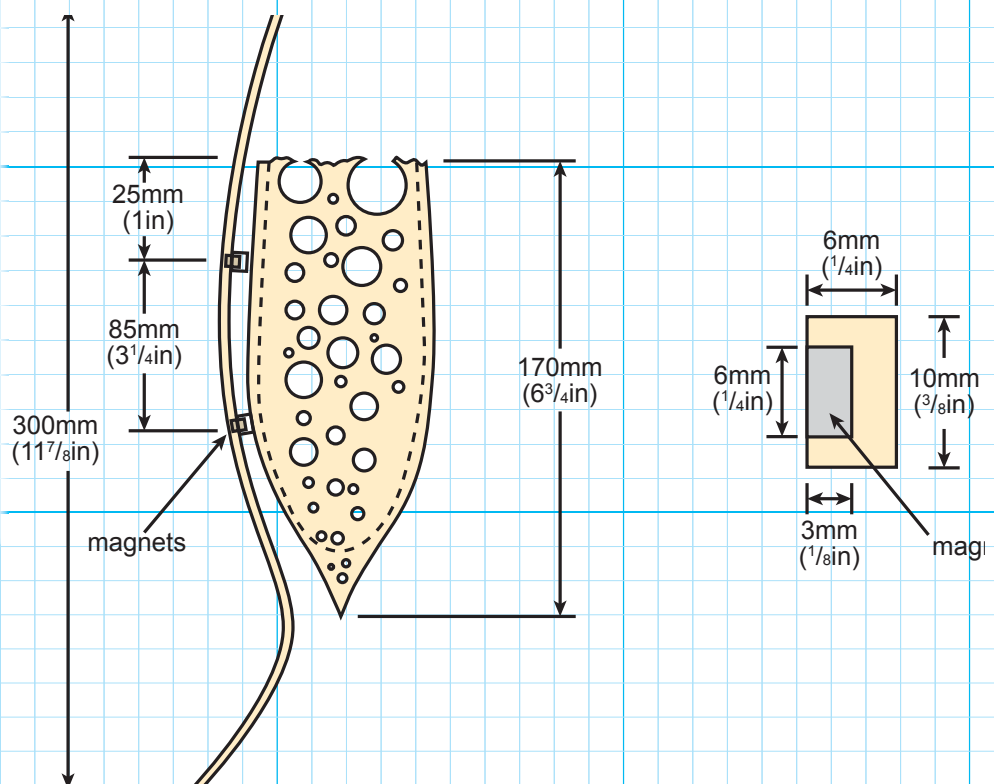
This project is quite time-consuming and making the vessel itself is the most difficult part, especially if you want to pierce it, as the wall thickness must be even and, as soon as you put holes through it, it will become

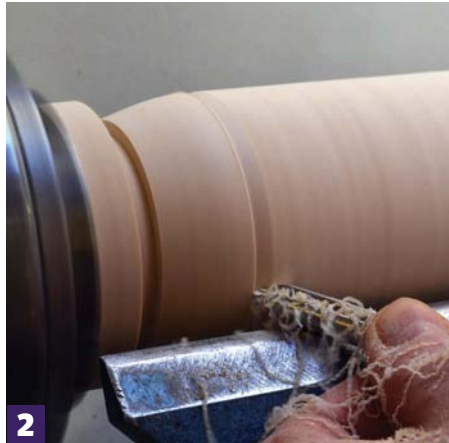
obvious if it isn't. Making the legs involves first making a former from scrap wood and using it to laminate them, and thought must also be given to how the legs are going to be attached to the outside of the vessel.

PLANS & EQUIPMENT

EQUIPMENT USED

Skew chisel
6mm bowl gouge, or spindle gouge
30mm twist drill bit, or similar sized
Forstner bit
Hollowing tool
Fixed angle ring tool cutter &
round scraper tip cutter
Abrasives
Craft knife
Rare earth magnet
CA adhesive
Vernier callipers
Two-part epoxy glue
Scotch-Brite bristle discs
PVA woodworking adhesive
Sanding sealer & soft paste wax
PPE: facemask, respirator/dust mask
and extraction





The vessel

1 The first step in making this vessel is to mount a 75 × 75 × 200mm block of sycamore between centres and turn it down to a cylinder until you reach around 70mm diameter. The next step is to form a dovetailed spigot on one end with the long point of a skew chisel held flat on the toolrest

2 With the cylinder securely held in a four-jaw chuck, remove the tailstock and true up the free end with a small bowl gouge. Before starting to hollow the vessel, a little shaping needs to be done to the outside of the block. I prefer to use a small 6mm bowl gouge for this, but a spindle gouge would serve just as well. I find this external shaping useful in helping to guide me when I'm using hollowing tools, but at this stage, with all the hollowing yet to take place, it is not wise to remove too much material as this would weaken the vessel

3 Drilling a hole to give a start to the hollowing is always a sensible idea. I use a 30mm twist drill bit, which is so large it makes the timber look small. If you don't have one, however, don't worry, as you can simply use the biggest drill you have or a suitably sized Forstner bit, which will work just as well

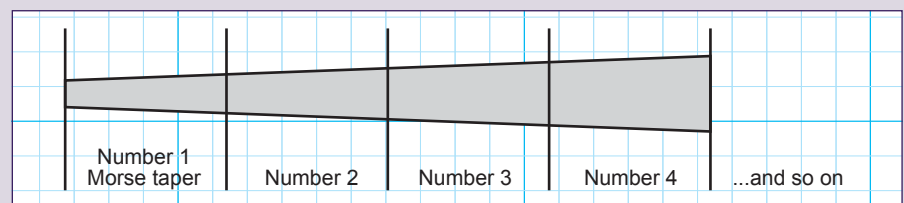
REDUCING THE MORSE TAPER

This is much easier than it sounds because all Morse tapers are sections of the same taper – see the diagram. A number 1 taper comes from the narrow end, number 2 from the wider part, number 3 wider still, and so on.

Mount the drill bit in the chuck of the metalworking lathe, holding the fluted end and with the end of the taper supported by the tailstock. Set the topslide, by trial and error, to match the existing taper. With it set at the correct angle but without knowing, or needing to know, what that angle actually is, the existing taper can be reduced

until it corresponds to a number 2 taper. Just measure the diameter at the top of the taper until it matches one of your other tapers and err on the side of it being slightly larger rather

than smaller. It's a fairly simple procedure and even if you haven't the lathe to do it yourself, it shouldn't be too expensive to get such a modification done for you.



Large twist drills such as the 30mm drill used here almost always come with a number 3 or even number 4 Morse taper – too big for my lathe tailstock, which takes a number 2. Fortunately I have a small metalworking lathe and was able to reduce the taper from number 3 down to 2



4 After drilling the hole in the top of the vessel, be sure you know exactly how deep it is. This can be done by marking the depth on the outside, and this can be easily checked as you go along

5 The combined chuck and vessel assembly is quite long, as you can see here, and support from a lathe steady will help to reduce vibration and juddering during hollowing. I made this homemade steady from plywood and skateboard wheels. Start the hollowing with a bowl gouge held with the lower wing just past '9 o'clock' to take a controlled cut from the inside of the hole, gradually working outwards towards the rim



6 As the hollowing gets deeper, the bowl gouge becomes more and more difficult to control and it is then easier and safer to switch to a custom-made deep hollowing tool. There are many on the market and they each make their claim to do this job better than any of the others. When it comes to deep hollowers, the choice is bewildering and so, once again, I've gone down the homemade route. My hollowing rig is based on several others available commercially, but beyond the basic idea it is not a copy of any particular one and has depended heavily on the stock sizes of steel available from my local supplier. After pondering the joints for a long time, the breakthrough was the discovery of 'thrust bearings', a type of roller bearing only about 2mm-thick, which could go between the moving parts

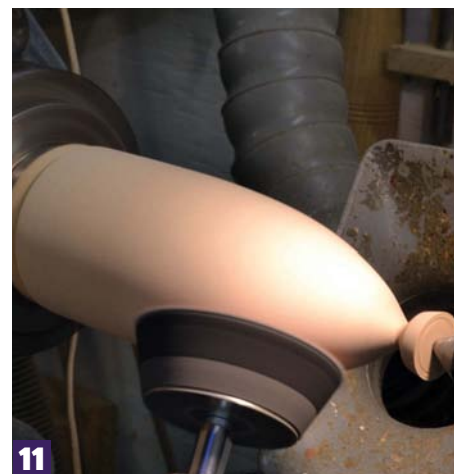
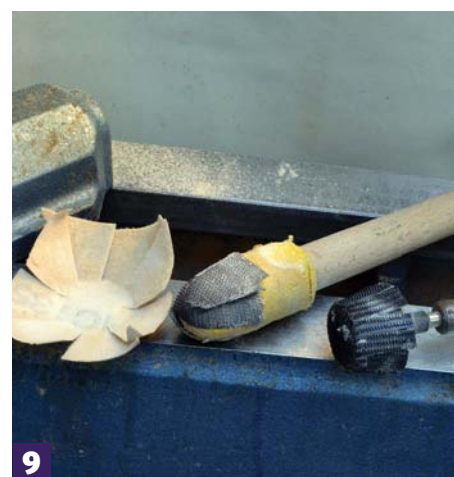
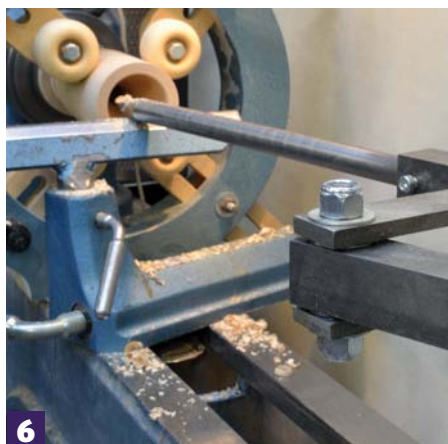
7 The cutters I find most useful are a fixed angle ring tool cutter from Ashley Iles – usually referred to by its initials – and a round scraper tip. There are many other tools that would also be useful here

8 As material is removed and the final shape is approached, remove the lathe steady to allow you to further refine the outside shape. As more wood is removed the vessel is prone to vibration and I found it best to support it with my left hand while taking light finishing cuts with my right hand. The hollowing rig helps enormously with this single-handed technique. Aim for a wall thickness of around 4mm to allow a little for sanding

9 Sanding inside a deep vessel is not easy and some means must be found of holding the abrasive paper. Here you can see a couple of my homemade holders with hook-and-loop fastening attached. Suitably backed abrasive can be cut and attached easily to these 'sanding sticks' to reach down the vessel. Another alternative, not shown, is to cut a slot lengthways in the end of a stick and insert a length of abrasive, allowing the rotation of the lathe to keep it wrapped around the end. Examine the interior carefully and work down the grits. I started with 80 grit to remove some tear-out in the ripple figuring, and followed this with my usual sequence of 120, 180, 240 and 400 grits

10 With the interior finished, remove the vessel from the chuck and reverse it onto a jam chuck made from a piece of scrap. Turn away the spigot and most of the waste wood at the end of the vessel, leaving just enough to support the workpiece securely

11 I found it easiest to power sand the outside of the vessel using the same sequence of grits as on the interior. When the sanding is finished, turn down the very end of the vessel as far as possible before removing it from the lathe, then finish the tip with a craft



knife, hand-sanding it to the same finish as the rest of the piece. Remount the vessel on the lathe, supporting the tip in a cone-shaped live centre so as not to damage it, and mark the positions for the legs on it at 120° intervals around the circumference. If your lathe has 24 position indexing, this is easily done using every eighth position. If you don't have indexing, wrap a strip of paper around the vessel and mark the circumference on it. Remove the strip and divide the marked length into three before replacing it and using the marks to place the three equally spaced positions on the vessel

POWER SANDING

Power sanding is an aggressive way of sanding, and not one I'd normally use on a piece of this nature, but the ripple figuring in the piece of sycamore I used had defeated my best attempts to get a clean cut surface from the gouge.

When faced with a situation like this I see no merit in wasting time on it – sanding can, and does, put it right very quickly, but take care not to introduce 'flats' into the surface, or otherwise distort the shape. Stop frequently to check your progress and make sure you're not removing too much timber

12 Before starting the legs, thought must be given to how they are going to be attached to the vessel. I decided that I needed spacers to hold the legs a few millimetres off the vessel's sides. This creates a pleasing gap that is an important feature of the design. It might be possible to glue the spacers to the vessel and the legs to the spacers, but holding everything in place while the glue set would be difficult. Using rubber bands came to mind but I wanted something a little different and easier to manipulate. Eventually I decided to use magnets. Tiny rare earth magnets 6mm in diameter × 3mm-thick are cheap and readily available, and are remarkably powerful for their size. Begin by



12

turning a short piece of ebony (*Diospyros spp.*) to a cylinder 10mm diameter and drill a 6mm hole 3mm deep in the end. Mark the depth on the drill bit with a dab of white correction fluid to make this a simple, repeatable operation. Put a tiny drop of cyanoacrylate glue in the hole and press the magnet in, tapping it gently home with a piece of scrap wood. Mark the ebony at 6mm with Vernier callipers and part off. Repeat for a further five spacers, making six in all

13 Glue the spacers in position using a rapid-setting two-part epoxy glue. This allows ample time to position the spacer and remove any excess glue



13

14 The spacers are held in place by putting magnets on the inside of the vessel. Although this sounds tricky, the attraction between the magnet on the outside and those inside makes it incredibly easy. Hold the spacer in position, place the magnets inside in approximately the right place, and they will, as if by magic, 'find' the spacer and hold it securely while the glue sets. All six can be glued at the same time using this method

Texturing and piercing the vessel

15 Texture the vessel using a small cutter held in a Dremel. Cutting is done with the 'corner' of the cutter, drawing it along the vessel in both long and short strokes. If all the strokes are the same length, the texturing will take on a regimented look and will appear as regular bands up the vessel. Avoid this by carrying some strokes up the vessel while keeping others short, and by varying the direction and making some strokes follow curves. The texturing will look better if the entire surface of the vessel is worked over. Also, try to vary the depth of the cuts. The freshly textured surface will be quite rough and in need of some sanding to remove the feathering and roughness left by the cutter. I find this is best done using Scotch-Brite bristle discs held in the Dremel, working along the texturing in light strokes. It goes almost without saying that the vessel walls must be thin if you intend to pierce them. It takes practise to get them perfectly even but if you aim for somewhere between 2mm and 4mm, piercing should be straightforward. Thinner walls may break or allow your cutter to 'run away' too easily, whereas thicker walls will obviously be more difficult to pierce and the wall thickness revealed can look unattractive. The cutter I use easily pierces the wall of the vessel and can be moved sideways in circular motions to enlarge the hole



14



15

16 Make the holes as circular as you can, but don't worry if they are not perfect. Don't be tempted to use twist drills to make perfect circles because they tend to splinter the inner surface as they break through, and this is almost impossible to correct after it has happened. Note that the jam chuck made earlier to hold the vessel on the lathe is now being used to steady the walls during the texturing and piercing



16



17

17 My aim in piercing the vessel was to create the impression of bubbles rising through a liquid, getting bigger as they rise and eventually bursting through the surface, so some larger holes were made breaking through the rim of the vessel, and the rim itself was unevenly cut with the same cutter to give the idea of ripples across a liquid surface. The individual holes can be sanded using a roll of paper made to fit

◀ The legs

18 Before starting the legs, draw the vessel, and add the shape of the legs as a curved line about 6mm away from the vessel surface. When you are satisfied with the shape, copy it to a block of scrap wood about 50mm square and as long as necessary. Cut to the line on the bandsaw to create a former for the legs. Note that any imperfections in the shape of the former will be transferred to the legs, so it is worth spending some time sanding the curved surfaces smooth and even adding a little filler here and there to make sure they fit together well. Once you have the former as you want it, it can be used again and again for similarly shaped vessels



19 The legs are laminated from sycamore veneer, cut into strips 50mm wide and about 50mm longer than the former. Veneers can be purchased in a number of different thicknesses and I'm using 1.5mm plain veneer and 0.6mm veneer stained black. Although ebony veneer is available, it is several times more expensive than stained sycamore. Glue the layers of veneer together using PVA woodworking adhesive. I find that a finger is as good as anything else for spreading the glue. Alternate the layers and whatever the thicknesses of your veneers – aim for a combined thickness of about 6mm



20 Cramp the veneers in the former using plenty of clamps to apply even pressure. Take care not to get glue on the outer veneers or you will glue them to the former, and if this seems likely, cover the two parts of the former in cling film before cramping. The assembly is best left overnight for the glue to set thoroughly. When the clamps are removed, the laminated veneers retain the shape of the former. Cut the laminate into three strips approximately 11mm wide to allow for the final width of 10mm after shaping and sanding. Hold them against the vessel and decide on a suitable overall length and then trim the top and bottom of the strips to make them the same length



21 Hold one strip against the spacers and mark the centres of the top and bottom spacers. Square these positions across all three legs and mark the centres. Before drilling, hold the leg in position and double check that you have marked them correctly – measure twice, cut once. As a precaution, raise or lower the drill table so that with the drill bit fully extended the bottom of the bit just clears the table, so you can't accidentally drill all the way through the leg. Drill a 6mm hole 3mm deep into the leg to take one of the rare earth magnets, but don't insert it yet. Continue until all six holes have been drilled. It is essential that the magnets are inserted in the legs the right way round so they attract rather than repel the magnets in the spacers. To ensure this, place a magnet



on the spacer and a drop of cyanoacrylate adhesive in the hole in the leg. Press the leg gently onto the magnet, and then use pliers to press the magnet fully home. Do the initial shaping of the legs on a sanding disc to remove the bulk of the waste at each end, bringing them to a blunt point

22 Further sanding is done with a small drum sander used in a Dremel, to remove the corners and begin shaping the long sides of the legs, removing any saw marks. The black veneer lines help to keep this even as work proceeds. You are then ready to hand sand



the legs with 80 grit paper to finish the shaping and then with a succession of 120, 180, 240 and 400 grits

23 To complete the project, give both the vessel and the legs a thin coat of sanding sealer before waxing with a soft paste wax. Apply this sparingly to the vessel using a brush to get into the texturing and then polish to a soft sheen using another clean brush. All that remains is to attach the legs to the vessel and stand it up. Once the legs are attached, the completed vessel should look something like this ●

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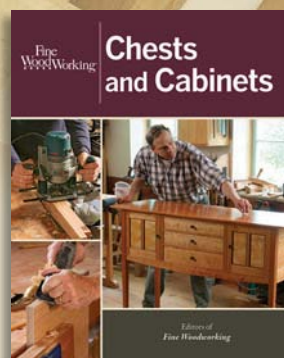
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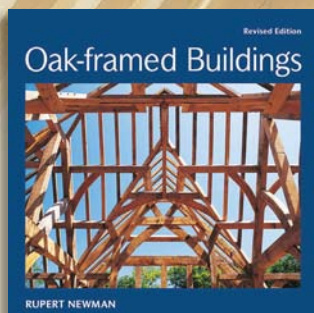
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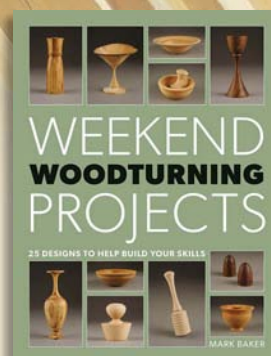
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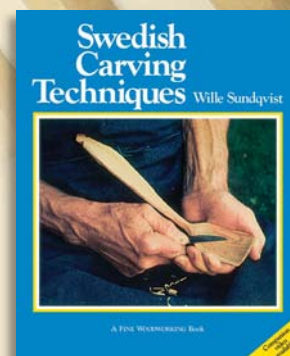
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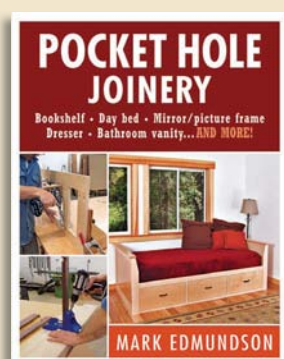
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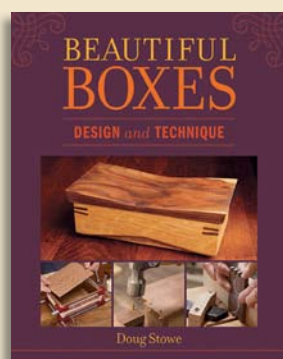
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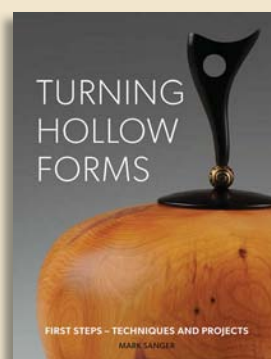
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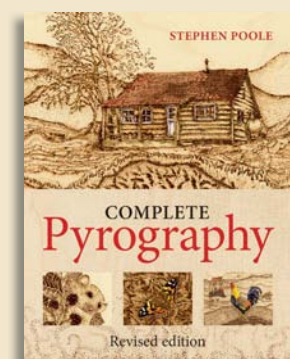
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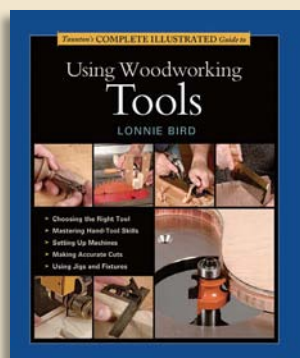
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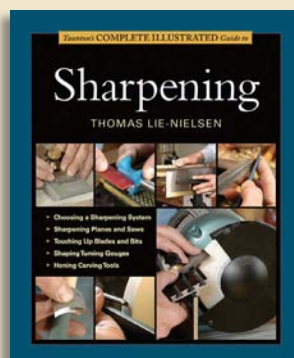
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Tips for turning a wet thin-walled bowl with beads +

Philip Greenwood shares his tips for turning a wet thin-walled bowl with bead decoration

PHILIP GREENWOOD



Philip has been turning wood since 1980 and started turning professionally in 1986. He was accepted onto the Register of Professional Turners (RPT) in 2006. He is also a member of the AWGB.

He can be seen working in his workshop in North Yorkshire and has demonstrated at the woodworking show at Harrogate since 2008. He runs courses at his workshop.

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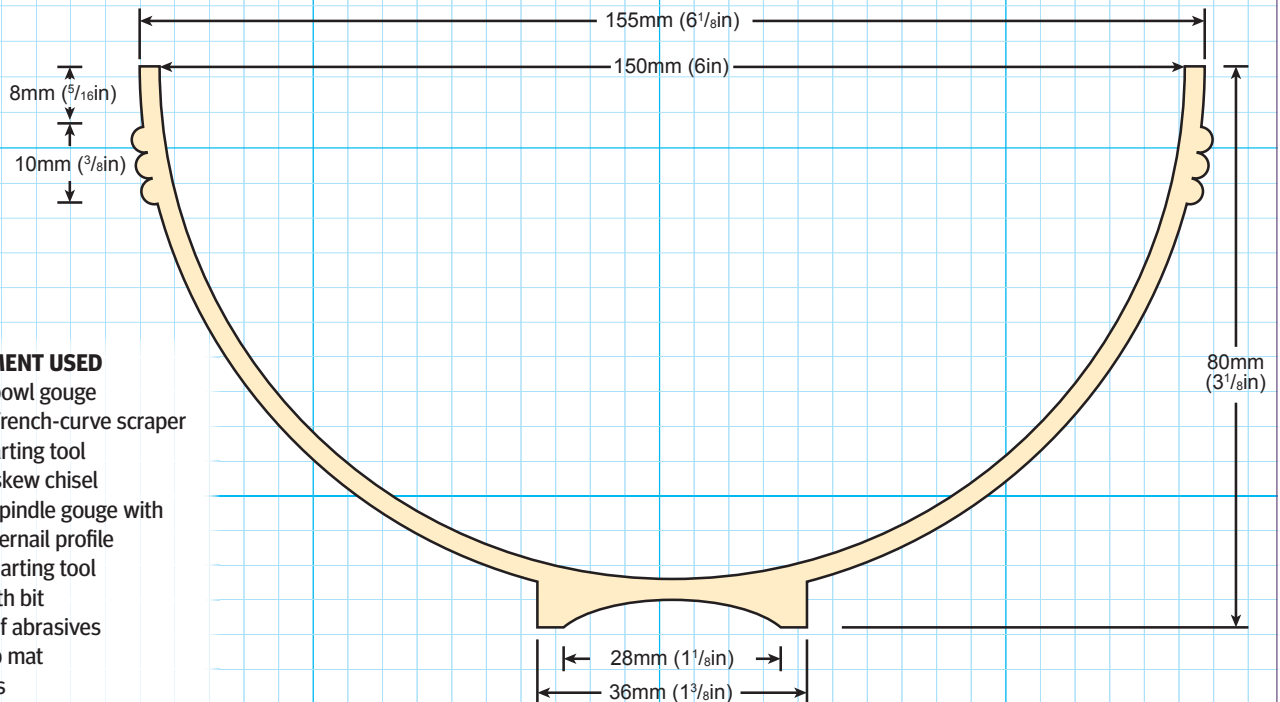
This is a project that will put your skills to the test. Anyone can make this bowl with a little practice. Sharp tools and a light touch are essential. This project is made using unseasoned – otherwise known as wet – timber, which helps with the turning. You will need to set aside enough time to complete this in one session; this is due to timber movement and the drying process that takes place as you are turning this item. You will also need a low voltage lamp, which will need to be placed next to the bowl as you are turning it. The best type of lamp is an LCD, due to the low heat output. If you use a lamp that emits a lot of heat, this could cause the timber to crack during the turning process.

Placing the beads on the top portion will prevent this moving as much and will keep the shape more, but because this is no longer

an even wall thickness, there will be more stress in the timber as this dries due to the thicker part where the beads are placed.

The piece of sycamore (*Acer pseudoplatanus*) I used here was only cut down this year so was still very wet with a moisture content of 39%. This allows more light to transmit through the fibres and is more flexible when turning. On this piece, make sure the pith is completely removed or this will make drying even more difficult. Sanding needs completing while on the lathe, but remember that the process of sanding will create heat and, secondly, will remove timber. When working on an item that is down to 2mm or less in wall thickness, over sanding could produce a hole in your piece. Turn the outside first, move to the inside and then back to the outside to complete the foot.

PLANS & EQUIPMENT



EQUIPMENT USED

10mm bowl gouge
25mm French-curve scraper
3mm parting tool
20mm skew chisel
10mm spindle gouge with a fingernail profile
Fluted parting tool
Sawtooth bit
Range of abrasives
Anti-slip mat
Callipers
PPE: facemask, respirator/dust mask and extraction

TIMBER PREPARATION

The log has been stored for a while so has a few splits on the end, which is normal. The first part of the preparation is to cut the end off to remove the splits. I cut off 100-150mm. You need to make sure that all the splits are removed or you will have splits in your bowl. Next, measure the diameter of the log and cut a length off just over the diameter; this then needs to be cut into two pieces down offcentre to remove the pith. The next stage is to cut this into a circle on the bandsaw. I pin a cardboard disc to the bark the size I need for the bowl and use this as a guide. This is all you need to do in preparation. You can use this straightaway or if not, place in a plastic bag and then use the same day, otherwise it may start to split again



The difference between a fresh and a stored log

LIGHT COLOURS



Here you can see orange 4mm and yellow 2-3mm

This bowl is turned thin using a light to help check the wall thickness. Only use a low voltage lamp here as you are using wet timber, and liquid and electricity do not mix. Sap will be thrown out of the timber due to centrifugal force. Where you place the light depends on your project – in this case, it is placed on the outside and you turn the inside away until you see the light transmit. For goblets, I turn the inside first and once shaped, place the light source inside this cut shape and then turn the outside. The amount of light transmission depends on grain direction. More light will show through end grain. Use the light source in conjunction with callipers to gauge thickness, as some variance can occur. Here, we are looking for a light orange going through to yellow for the wall thickness

HOW TO FINISH WET TIMBER

Once you have turned the bowl, you can sand this straight away. Two things will happen: one, your abrasive paper clogs up so keep moving onto a clean piece; second, it will create heat, which will dry your bowl. You don't want to introduce too much heat or it may crack your bowl. You need to be aware of heat check, which occurs when you get lots of small cracks on the end grain; this is due to too much heat building up in the timber. The photo here shows a piece of yew (*Taxus baccata*) with heat check. As the surface dries, go through all the grades as normal. A light sanding by hand with 400 grit may be needed after a day or two. The finish used here is an oil, which I apply after the piece is fully dry – normally 3-4 days after turning. De-nib in-between coats – I apply 2-3 coats in total



A piece of yew (*Taxus baccata*) with heat check

**1****2**

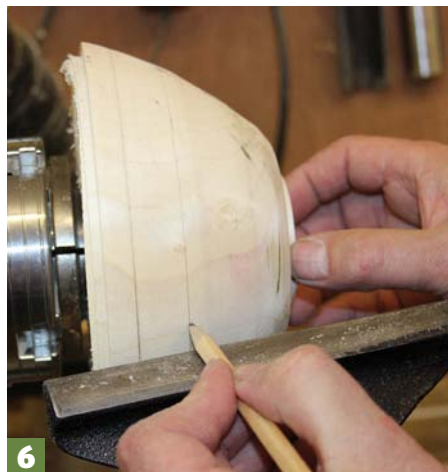
1 The first step is to pin a disc to the top of the bowl blank to use as a guide when bandsawing this to a round. As you can see here, I use a pushstick when working near the blade. Always keep your fingers clear

2 Drill a hole in the top of the bowl with a sawtooth bit the correct size of your chuck jaws, which allows you to expand the jaws into the hole. Bring up the tailstock to give support while you rough turn the piece

**3****4**

3 Use a bowl gouge to rough shape this piece of timber. The first step is to get this in balance to reduce vibration. Be careful of the bark coming off the bowl if it is at all loose. Continue until you have a basic shape. You are looking for a flowing curve; this will make turning the inside easier

4 Mark the spigot diameter on the base and try to make this the optimum size for your jaws, which will allow you to obtain the maximum grip. This can be found in the instruction leaflet for your chuck. If not, adjust your jaws until you have a perfect circle and then measure this

**5****6**

5 Use a parting tool to cut the spigot to size – I made mine 7mm deep to obtain a good grip. Use a skew chisel laid flat on the toolrest with the long point to cut the dovetail on the spigot. Make sure the bottom corner is cut clean and that you have no waste left in the corner

6 Clean the top face a little to give a datum point. Now mark the area where the beads will be cut. Mark it wider at this point as it will be cut narrower later

**7****8**

7 Part down both sides of the pencil lines for about 6mm; this will be reduced later when the bowl is held in the chuck on the spigot. When turning wet timber, be careful when parting down a groove. Wet timber will bind on the sides of the parting tool, so make a clearance cut if parting deep

8 Use a bowl gouge to remove the waste from both sides of the raised bead part. After completing the lower side of the bowl, remove some from the left side of the bead area. You are looking for a flowing curve running from the base to the rim of the bowl, running through the underside of the bead area

HANDY HINTS

- 1.** Plan your project to enable you to complete the piece in a short time. Leaving a project like this only partly completed to finish in a few days' time will result in distortion and cracking
- 2.** Make sure you have removed all cracks from the log end before cutting a piece for the project

9 After placing the bowl in the chuck, tighten very lightly. Check for run out by placing the toolrest close to the bowl. Spin the bowl by hand and see if the gap is the same all the way round. If not, you need to adjust until it runs true. Now tighten the chuck fully

10 Take a light cut up the outside to remove any small amounts of run out. Just a 1mm run out could mean one side wall will be 2mm-thick while the opposite side would be 1mm. Start cutting from the base towards the bead area, then do the same at the other side of the bead

11 Use the long point of the skew chisel with the tool laid flat on the toolrest to clean right into the bead area on both sides. In effect, you are using the skew as a scraper

12 Use a fluted parting tool – or bead-forming tool – to cut the small beads, three in all. Use very lightly and take small cuts to achieve the best finish. This tool needs to be very sharp to cut cleanly. Or, you could also use a spindle gouge or a beading & parting tool

13 Sand the outside of the bowl to remove any tool marks starting with 120 grit; this will clog at first until the timber has dried slightly. Keep cleaning or using a fresh piece of abrasive. Go through the entire range of grit grades to achieve a good finish on the bowl

14 Remove the waste from the centre part of the bowl only; this will keep the bowl walls stable when you are turning them down to 2mm thick. Keep the walls around 25mm-thick on this size of bowl and only go about 30mm deep at this stage

15 Now start to take the wall thickness down a little more. Use a very sharp bowl gouge to achieve a good finish; this will help to reduce sanding later. Bring the wall thickness down to 5mm at this stage for the 30mm depth

16 Use a low voltage light here. Remember that sap can be thrown from the timber onto the light so a main voltage lamp is not recommended. I'm using a sealed LED light with transformer – I would not use a halogen light due to the high heat output. A strong light output is needed here. Place this close to, but not touching, your bowl. I place mine on the right-hand side of the bowl, but the light source could also be placed on the left-hand side

HANDY HINTS

- 3.** Wet timber will let the light shine through
- 4.** Only use a low voltage light due to sap being thrown from the timber onto the light. A standard voltage light could be very dangerous





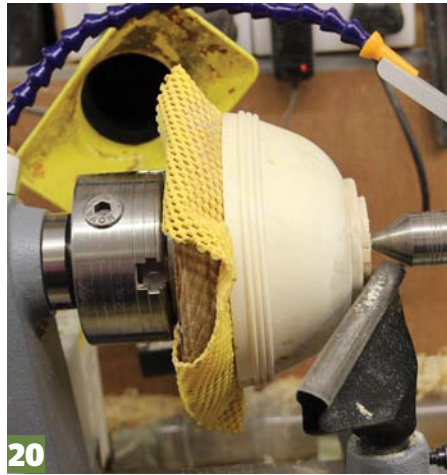
17



18



19



20



21



22



23

17 Using the bowl gouge, start to take down the wall thickness. You will see an orange glow, which will then turn to yellow. At this stage, do not turn this any thinner. Be aware you will see orange light transmitting through the bead area due to the extra thickness

18 Turn the next section out of the centre to a depth of 30mm, then repeat the previous stage of thinning the wall thickness. Be aware that the amount of light transmitting through the wall will change as you reach the lower curve and bottom area. Stop the lathe and check the wall thickness with your fingers or with callipers. Try to keep an even curve throughout the bowl

19 Move onto the last section of the bowl and keep bevel contact as you move across the bottom. Remember that you still have to finish the outside of the bowl base so do not go too thin. Sand through all the grits and make sure you have no marks as this is the last time you'll be able to sand the inside on the lathe

“Try to keep an even curve throughout the bowl”

20 Use some anti-slip mat on a part-turned bowl held on the chuck, then place your bowl onto this and bring up the tailstock with a revolving centre. Remember not to place too much pressure on the bowl or it may split

21 You can now begin to remove the waste from the base and try to keep the flow of the curve. Keep a check on the wall thickness; you don't want to ruin all your hard work and turn through the base. Finish the foot off, then sand through all the abrasive grades

22 After taking the piece off the lathe, remove the small pip left using a gouge. Keep your fingers behind the tool, then sand to a finish. Allow the bowl to dry over the next few days then apply an oil finish to the bowl

23 The completed thin bowl in sycamore (*Acer pseudoplatanus*) with beads should look something like this ●

HANDY HINTS

- 5.** Allow the piece to dry slowly once completed; it will be completely dry in a few days
- 6.** Use oil finish as this will soak into the fibres. Apply as many coats as needed to obtain the finish you require
- 7.** Wear a full faceshield when turning an item with bark attached
- 8.** Use a pushstick when using a bandsaw, especially if cutting near to the blade

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Kit & Tools

A mixture of press releases showing the latest tools and products on the market

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STEINERT ALPHA-OPTIMO LATHE

Sitting in the middle of their range of substantial woodturning lathes, the Steinert alpha-optimo model is designed to meet the needs of the committed woodturning enthusiast as well as the woodturning professional. The bed, headstock, tailstock, banjo and toolrest are all made of generously dimensioned iron castings giving the lathe enough heft to withstand the loads of turning heavy and out-of-balance workpieces and to dampen vibration. The lathe offers 500mm swing over the bed and up to 750mm over the optional bowl turning attachment. Between centres, the alpha-optimo will accept workpieces up to 1,000mm long making it very suitable for turning chair and table legs and similar spindles.

In common with most of the lathes in the Steinert range, the alpha-optimo is offered with a choice of drive system, though most users would today opt for the 2.25hp variable-speed system driving through a three-speed belt transmission, giving the benefit of a wide speed range with full torque available throughout the range from 100-3,150rpm. The electronic variable speed system also

gives the user the capability to quickly and easily adjust the acceleration and braking ramps of the motor control system, to suit the current workload and operating conditions. The optional drive configuration gives five discrete speed steps between 370-2,800rpm and is provided when the electronic variable speed control system is not specified.

The headstock is designed to rotate and can be securely locked, using a unique key-plate mechanism, at 90° intervals. Between the pre-set positions the headstock can be set to any convenient position, making it simple to set the spindle orientation to enable strain-free bowl turning.

The spindle of the alpha-optimo is carried in widely spaced maintenance-free bearings with a double-row angular contact ball bearing at the inboard side and a deep-groove ball bearing to resist longitudinal thrust loads at the outboard side. Spindle equipment is mounted using an M33 × 3.5mm thread on the nose of the spindle, which is through bored 12mm and features a No.2 Morse Taper throat. The tailstock quill has a generous range of movement of 120mm making drilling operations somewhat quicker than on the average lathe.

The banjo is locked to the bed using a simple clamp-lever requiring but a short

movement to change from fully locked to free. The toolpost supplied as standard is 275mm long and is one of several available for the lathe.

This lathe can be equipped with a range of accessories including a bowl turning attachment, which mounts to the left support pedestal and increases the bowl turning capacity to 750mm diameter, with the headstock rotated into the '90°' position.

The overall footprint of the lathe, in standard form, is 1,950mm long × 600mm deep × 1,200mm tall. A modified version of the lathe, with somewhat reduced capacity – 400mm swing over bed and 800mm between centres – is available for bench mounting.

With a range this flexible and offering so many options, quoting a 'typical' price is far from easy. However, as a guide, the alpha-optimo, configured with electronic variable speed drive is currently priced at around £5,540, with the optional bowl turning attachment available for just £565, if required.

For further details on any of the Steinert range of lathes, including the VB36 Plus Master Bowlturner, see details below.



FROM £5,540

Contact: The ToolPost
Tel: 01235 511 101
Web: www.toolpost.co.uk

LATEST INLAY KITS FROM KALLENSHAAN WOODS

Kallenshaan Woods has recently launched 10 new pen kits, which we will feature over the next few issues. The first is the 'Segmented Cross' kit, which is made from walnut (*Julans regia*) and cherry (*Prunus serotina*). This kit allows you to make two pens from one and includes 14 individual pieces. The second kit, 'Segmented Heart' is made from bloodwood (*Brosimum rubescens*) and maple (*Acer saccharum*) and again, allows you to make two pens for the price of one kit and includes a total of 20 pieces. Lastly, the 'Celtic Knot' kit is available for the PSI Celtic pen kit and the Sierra Vista pen kit. The only piece in this kit is the body piece, which is made from basswood (*Tilia americana*). All of the recesses are filled with five minute



FROM £12.79

two-part epoxy mixed with a small amount of green Pearl Ex metallic powder, which is included with the kit.

Contact: Kallenshaan Woods

Tel: (001) 702 523 9236

Web: www.kallenshaanwoods.com

MOLOTOW PUMP MARKER WITH BULB PIPETTE

Available from Craft Supplies USA, this clever marker allows you to apply wood colouring dyes with precision. Simply fill the marker with your favourite wood dye and colour your work any way you like. Molotow markers allow you to easily create patchwork patterns or add colour to specific areas of the piece.

After you've coloured your work, you can gently blend the colours together for seamless eye-catching colour combinations and an overall dynamic look that can't be achieved using standard colour layering techniques.

Molotow markers are available in 2mm (111EM) and 4mm (211EM) round point sizes and can be used again and again by removing the tip assembly and rinsing it with alcohol.

Contact: Craft Supplies USA

Tel: (001) 800 551 8876

Web: www.woodturnerscatalog.com

FROM £2.87

MOZAMBICAN HARDWOODS

Dalman Limited imports exotic hardwood products from Mozambique, including woodturning blanks and rustic slabs. All products are supplied by TCT Dalman in Mozambique, which has a 25,000 hectare timber concession run on sound and responsible environmental principles with a high emphasis on resource sustainability and preservation, as well as the socio and economic benefits to the local communities.

Currently they stock a range of 12 exotic turning woods, but through ongoing testing and experimentation by local turners, they hope to increase this to 20 species. The current range vary in colour, grain, texture and density, from the darker, denser timbers, such as African blackwood (*Dalbergia melanoxylon*) and leadwood (*Combretum imberbe*), to the lighter, less dense wild mango (*Mangifera indica*) and umbila (*Pterocarpus angolensis*).

The company distribute their products through an increasing number of retail outlets who serve the woodturning fraternity throughout the UK and Europe and do not sell directly to the public. To assist turners in sourcing the products, these outlets are listed on the website.

Contact: Dalman Limited

Tel: 07876 590 990

Web: www.dalmannuk.com



NEW PEN BLANKS

GPS Agencies is pleased to introduce two new exciting colours to their existing range of pen blanks. 'Toxic Green' and 'Toxic Orange' are attractive, vibrant and fun. They would definitely stand out from the rest of your pens. The material is easy to turn and gives a great effect each time. Each pen will have its own individual identity as no pattern is the same.

Contact: GPS Agencies
Tel: 01730 233 366
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FROM £25

ROBUST 2MT CUP-STYLE DRIVE CENTRE WITH BOWL DRIVE SET

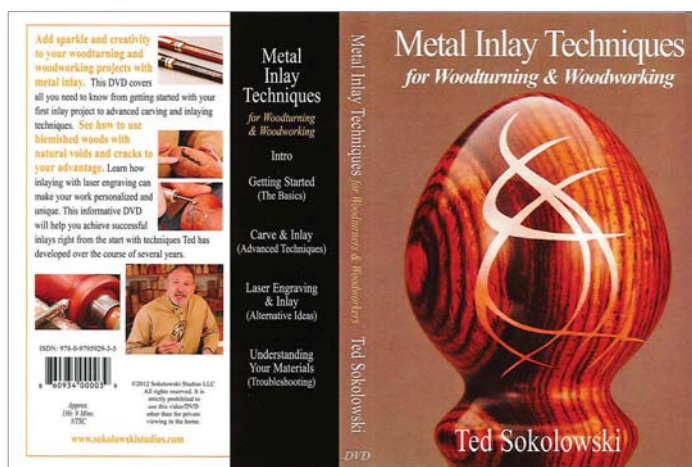
The Robust cup style drive centre is perfect for safely driving spindles and small bowls. If you get a catch, the wood just spins on the centre. Like the Robust live centre, the tip is adjustable and it is threaded $\frac{3}{4}$ -10 for any accessories you may want to add. It is available in No.2 Morse taper only.

The bowl drive threads onto the cup centre and provides more surface area for driving larger work. When properly seated in the wood, the ring centre allows the wood to spin if you get a catch. If you think you need a little more bite, you can file a few small notches in the ring.

Jointly developed with noted turner Alan Lacer, the Robust ring style drives are based on German and Japanese style drives that have been used for centuries. If you never tried a ring style drive before, you will be pleasantly surprised by how well they work.

Contact: Robust Woodturning Tools
Tel: (001) 608 924 1133
Web: www.turnrobust.com

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Price: £19.22

Contact: Ted Sokolowski

Tel: (001) 570 937 9400 **Web:** www.sokolowskistudios.com

DVD REVIEW

Ted Sokolowski produces beautiful metal inlaid work and his making a video is a godsend to anyone venturing into this form of decoration. The videography is clear and shows exactly what is going on and Ted's comments and relaying of information is excellent.

He talks of originally filling cracks and fissures to rescue woods but realised that there was more you could do with such inlays, including carving your own patterns with hand or power tools and laser cutting them to give you a unique design.

He goes into detail about the health and safety aspects, the surface preparation, materials

and tools, how to use them, how to turn the filled items and sand them and the ever important aspects of problem solving.

I love the fact that Ted shares his wealth of knowledge without skimping on anything he relays. All his techniques are shown and explained clearly, not only how to do the aspects, but also why. He has a very down-to-earth manner of speaking that is very clear and there is no distracting background noise that often gets in the way of hearing what is being said.

If you are looking to venture into metal inlay, then this is a good place to start.

Mark Baker

RECORD POWER DML320 CAST-IRON ELECTRONIC VARIABLE SPEED LATHE

Record Power has introduced an exciting new lathe to their comprehensive range of woodturning machinery – the DML320 cast-iron electronic variable speed lathe. This machine packs a real punch, with a powerful 1hp motor, 305mm swing over the bed and an impressive 510mm between centres. The spindle thread is the popular M33 x 3.5 and the tailstock is No.2 Morse taper, with a wide range of accessories available to fit.

The solid cast-iron bed, tailstock and headstock offer superb stability, even when turning items at the limits of the lathe's considerable capacities. Most impressive of all is the high quality electronic variable

speed function, giving smooth and responsive speed change at the turn of a dial, with a highly accurate digital speed readout. The DML320 is also capable of reverse turning.

Priced extremely competitively the DML320 offers some fantastic features, giving woodturners the chance to own a high quality variable speed lathe at an unbeatable price. In addition the DML320, as with all Record Power's machinery, comes with an industry-leading five-year guarantee.

Contact: Record Power

Tel: 01246 571 020

Web: www.recordpower.co.uk



STARBRIGHT PLASTIC POLISH

Turners Retreat has begun to introduce its own range of finishes, and the first of these is the Starbright Plastic Polish. This carefully formulated pen polish will give you an amazing gloss finish on all your plastics and acrylics. The polish is designed not to dry or congeal in use, ensuring that you do not encounter smearing as can be the case with other polishes. A handy sized 200ml bottle and just a thumbnail size of polish per pen provides the ability to finish hundreds of pens.

Contact: Turners Retreat

Tel: 01302 744 344

Web: www.turners-retreat.co.uk

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ROBERT SORBY LAUNCHES NEW WEBSITE



Woodturners have a new and exciting resource at their disposal after Robert Sorby announced the launch of its new website, which has been built using the latest in responsive design meaning it will be easy to use on all computer devices and smartphones.

As well as in-depth product information on a huge array of Robert Sorby woodworking tools and accessories, the new site offers the opportunity to download product instructions, view engaging and informative films, win fantastic prizes and gives users the chance to provide advice and opinion on its online forum.

The site also boasts an interactive flip-through digital catalogue allowing browsers to click-through from links in the catalogue pages to website pages, where further information and engaging content is available at the click of a mouse.

Woodworkers wanting to find a stockist can easily find directions through the website's use of Google Maps and a handy link under each stockist's contact details takes you straight to their preferred stockist's Robert Sorby pages.

Visit the 'Resources' menu for a range of additional exciting features including the 'Tools and Techniques' pages where some of the world's best known woodturners let you into their secrets. Visitors can also see where the Robert Sorby team will be demonstrating tools on the 'Events' page.

The launch is the first part of a two-phase web project focused on developing engaging content for all woodworkers. Future plans include having an online review section where users can rate tools and a Robert Sorby tools users' gallery where woodworkers will be invited to send in photos of their work and what Sorby tools they used to complete it.

Contact: Robert Sorby

Tel: 01142 250 700

Web: www.robert-sorby.co.uk

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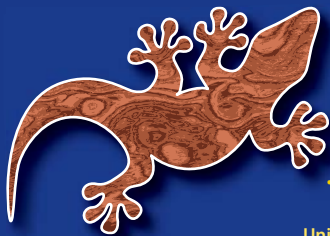
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Michael Hosaluk — 'Frank's Orb'

This piece by **Michael Hosaluk** was made to commemorate the death of fellow turner **Frank Sudol**, using timber from Frank's own collection



PHOTOGRAPH BY TRENT WATTS

'Frank's Orb', birch (*Betula pendula*), birch bark and glue, 165 × 405 × 165mm

'Frank's Orb' was a piece I made to commemorate a friend's – Frank Sudol's – passing. I came up with several unfinished prototypes using pieces Frank had made, but this one in particular stood out as it was different from the rest. Its shape is not typical of what Frank usually made and the tool had wandered a bit too far and partially gone through the other side. Metaphorically, however, it was the perfect piece for the title. The birch (*Betula pendula*) bark that was used to cover the turning was from the last trees Frank had harvested the day before he died. The pieces of bark were put on in small pieces using carpenter's

glue and taping each piece with masking tape. It is a slow process to work on a few projects at once. If you have trouble with the material conforming to the shape, I suggest moistening the bark/material. Any material can be considered for surface design.

Orb has many meanings that relate to his life, such as 'circle' or 'something circular'. He made things of this nature and I am sure he was out there orbiting at the time of the ceremony for his passing as a storm blew in and a clap of thunder shook the building. It also means 'to encircle and enclose', which is what I did with the form he created, using the material he last harvested. The spirits of



PHOTOGRAPH BY MICHAEL HOSALUK

Other view of 'Frank's Orb'

our dearly departed live on and this object, 'Frank's Orb', was my way to have the spirit of a good friend live on. ●

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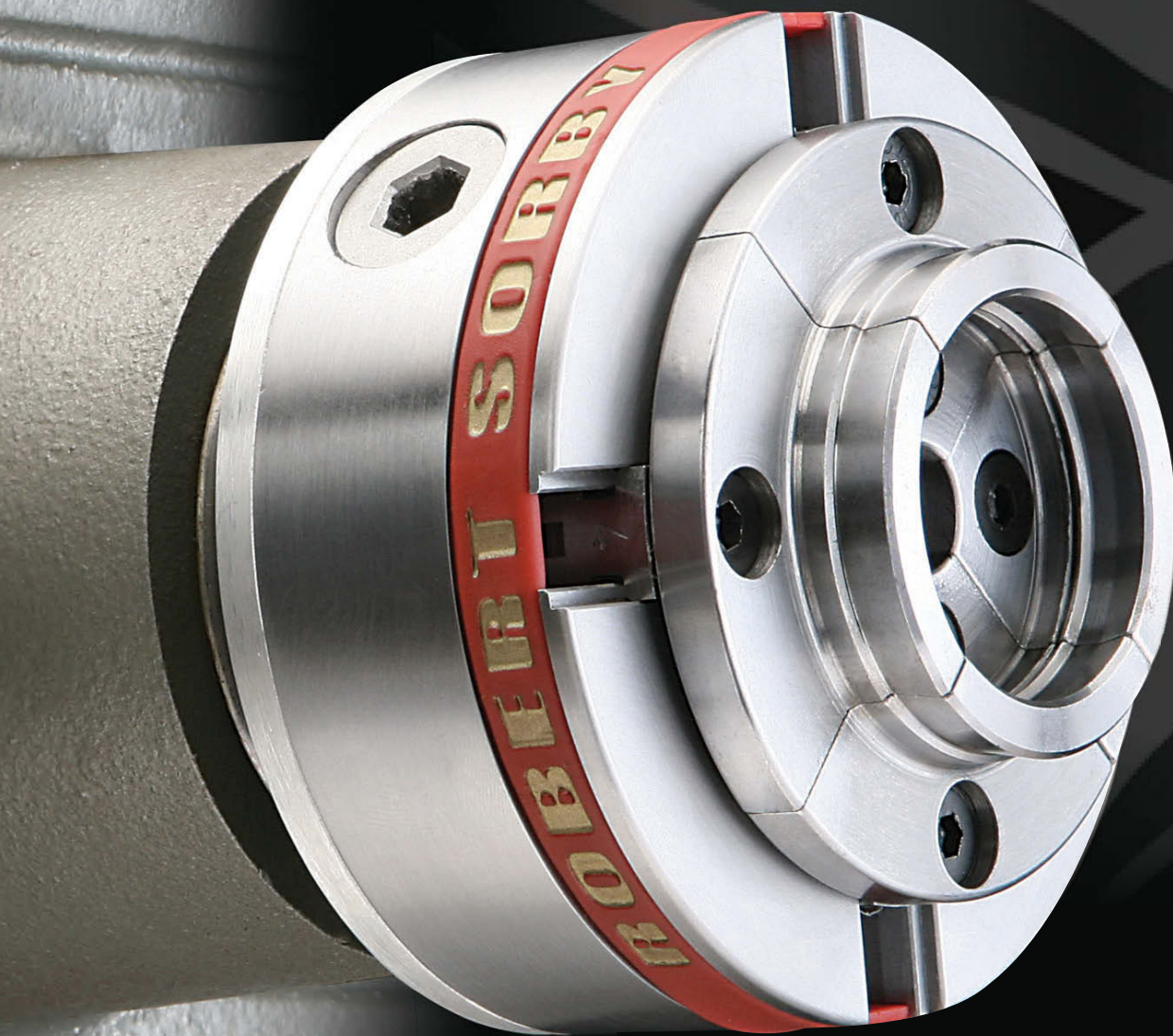
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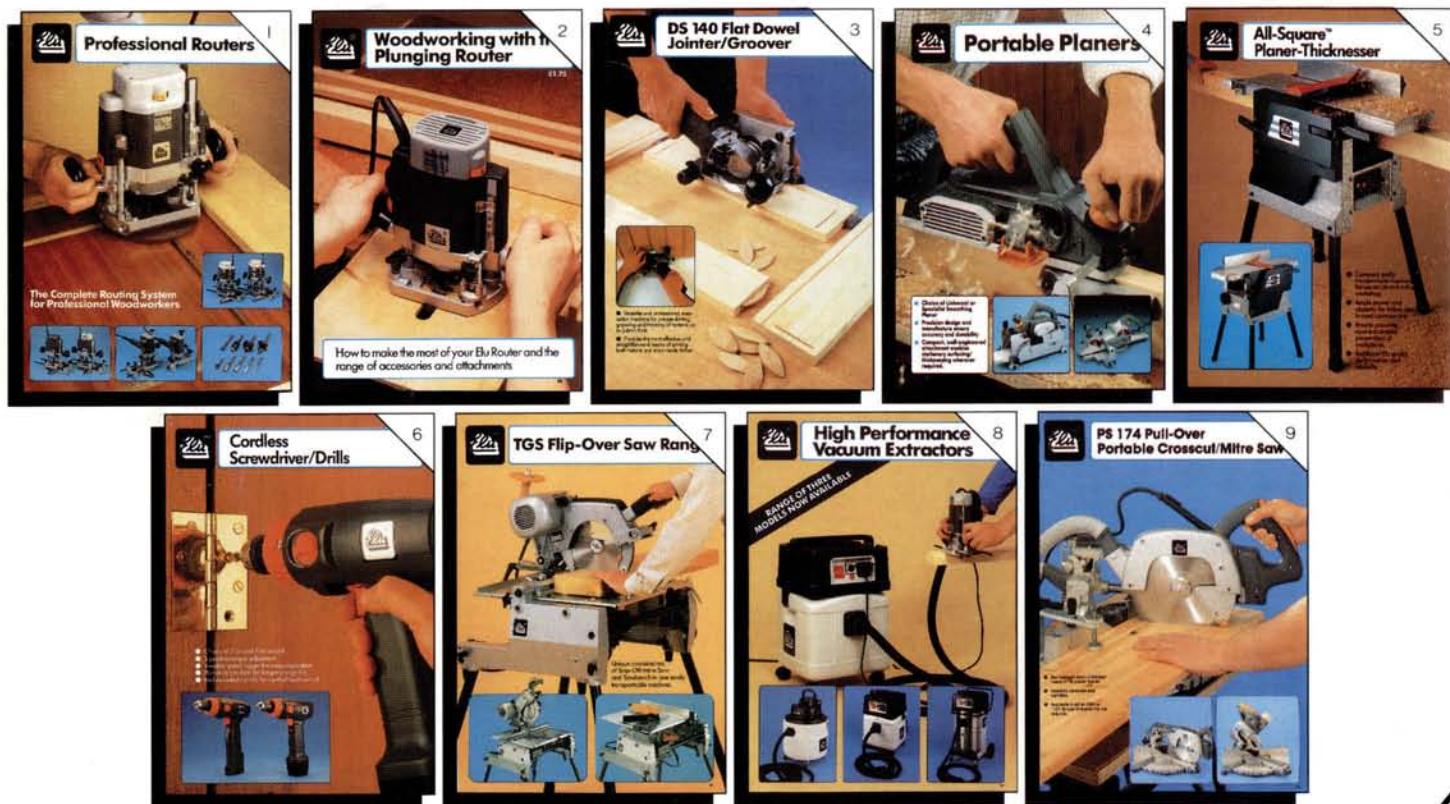
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Agreeing to differ

Putting together this first issue of Woodturning has been an experience I shall continue to savour for some time.

Cooperation throughout the world has been generous in the extreme. The thought of a magazine of their own is such welcome news for woodturners that congratulations, good wishes and offers of help have been the order of the day.

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The challenge is an exciting one. Worldwide many differences distinguish you as woodturners. Differences of culture, tradition, ways of working and of looking at things. Agreeing to differ could result in an interchange of ideas that will enrich us all.

So, wherever you are in the world, whether you are a weekend amateur or a seasoned professional, whenever you feel you have something to say, please don't hesitate to say it.

This is your magazine.

Bernard C. Cooper

Bernard C Cooper
Editor

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win ♦ COMPETITION ♦ win

£850 Myford Mystro to be won

Plus 10 free subscriptions to Woodturning

Woodturning is a great hobby. It is a craft and an art form. But we don't want to give away a lathe as good as the Myford Mystro to just anybody. We want to make sure it goes to somebody who can appreciate the finer points of turning, which is why we are asking you to identify the work here.

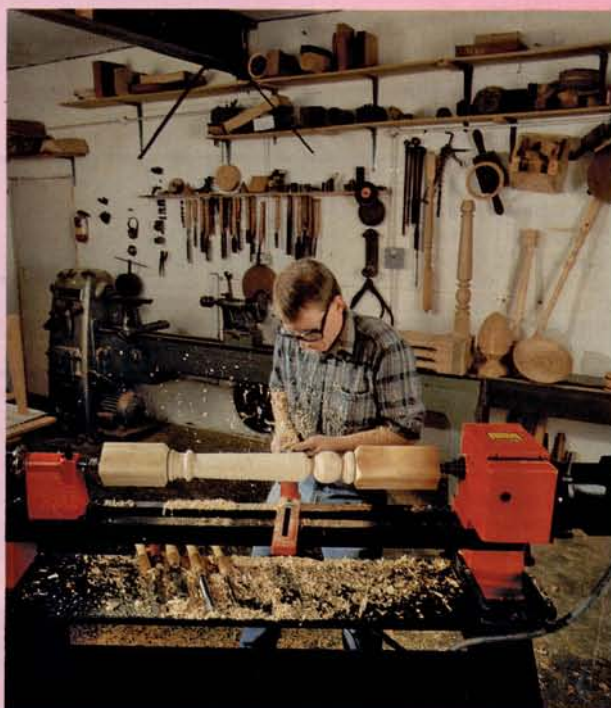
What we want you to do is to match the names of the turners listed with the pictures of their work. For example, if you think picture 'A' is the work of Bert Marsh, write 'A' alongside the name of Bert Marsh.

There are five pictures and five names. You have to use your skill to match the five names of internationally famous turners with their work.

Having identified the work, complete in no more than 20 words the tie breaker sentence about why you would like a Myford Mystro and send your entry to the Mystro contest, *Woodturning*, at the address on the entry form. Only entries received by Friday, 7th December 1990 can be considered.

Entries will be studied by independent judges and their decision is final. No correspondence will be entered into.

Entry is open to any reader of *Woodturning* apart from employees or their families of GMC Publications Ltd; or employees or their families of typesetters, designers or printers involved in the production of *Woodturning* or *Woodworking*; or employees or their families of Myford.

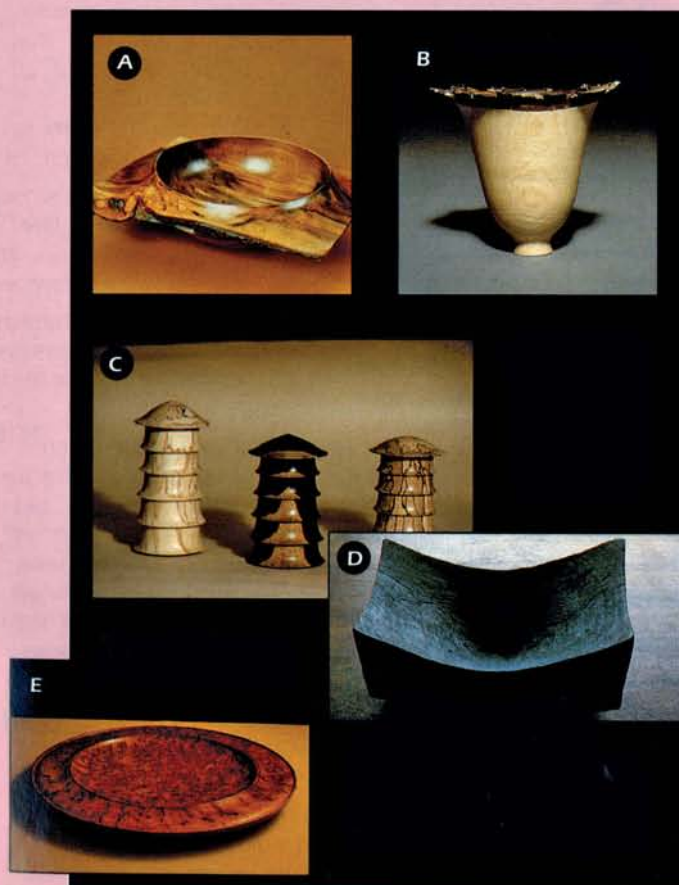


The prizes

The Myford Mystro

The new Myford Mystro is everything a turner wants. This is what Keith Rowley, author of *Woodturning: a foundation course* says about the Mystro:

"After putting the Mystro to constant daily use I found it to be without doubt the most user friendly lathe I have ever used. The Myford designers are to be congratulated on producing such a quality lathe. They have obviously listened to and heeded the advice of professional and production turners. The Mystro is a joy to use."



Entry form

Name

Address

Postcode

Whose work is it?

Cecil Jordan

Ray Key

Bert Marsh

Jim Partridge

Vic Wood

Tie breaker: I would like a Myford Mystro because (in no more than 20 words)

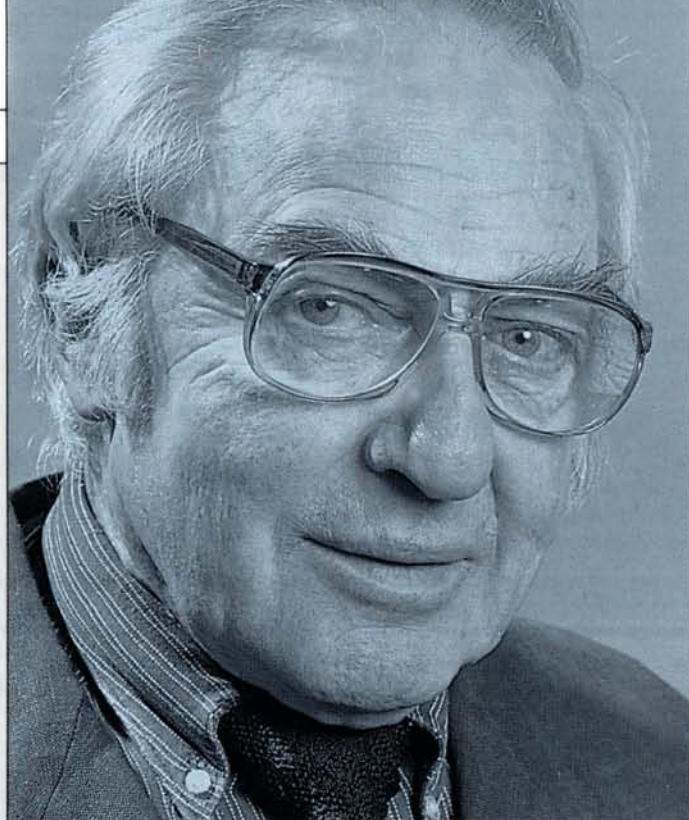
Send your entries to:

The Myford Contest, *Woodturning*, 166 High Street, Lewes, East Sussex BN7 1XU.

Professor James Prestini is regarded by many as the father of modern-day decorative woodturning. Christie's, in its auction catalogue of 1988, had this to say of him:

'Forty years ago, James Prestini added a new dimension to the 3,000 year old tradition of woodturning: the delicate decorative wooden bowl. During the past ten years this new craft of the turned bowl has blossomed and matured. Mr Prestini has been a design professor, a research engineer at IITRI, a mathematician and a sculptor. From 1933 until 1953, he was a woodturner. He was in touch with both Moholy-Nagy and Mies van der Rohe and became deeply immersed in the Bauhaus idea about art and design, craft and industry. There is an extensive collection of Prestini's work at the Museum of Modern Art, New York.'

We are honoured that Professor Prestini, now aged 83, should have written this statement especially for the inaugural issue of WOODTURNING. And we take this opportunity to thank him for what he started when he transformed what, in the eyes of many, was a mundane craft to the true art form it has become today.



Woodturning 1990

JAMES PRESTINI

Creative woodturning is for all time. It is not design of the contemporary for the temporary.

The inauguration of a new professional journal for woodturning offers the opportunity to define the function of woodturning in today's culture.

Woodturning is a craft. It takes many years to master a craft. The best way to learn a craft is to be an apprentice to a master craftsman. This makes it possible to experience first hand how a master puts it together.

Woodturning craftsman explores wood in order to bring out the essence of woodturning. What is it about woodturning that can only be expressed by turning wood on a lathe? Also the woodturner expresses the essence of the nature of wood. Woodturning is the marriage of turning and wood. This marriage can only be consummated

through many years of an analytical growth process.

Production must define the relationship between process and product. Process is what is important. Product is the end result. Process is a generative learning opportunity to find out about the turning craft, the material wood, and yourself.

Optimum craft is for use, not misuse. Today's culture cultivates designs for the audience instead of designs for use. Woodturning use can be for utilitarian use and/or for spiritual use. Today, chairs are not designed for sitting comfort. Chairs are designed for audience entertainment.

Woodturning can be utilised in our technological world in three ways. Professional craftsmen

who select woodturning for their careers. This selection is based on the evaluation that the woodturning craft will result in a full life for the craftsman. Second group are professionals in other disciplines who use craft as an extra-curricular activity for a more complete development of body as well as mind. Third group are retired individuals who wish to experience craft as a meaningful experience.

The woodturning craft is optimised when it becomes art. The creative process is adding to the existing body of knowledge. Today many craftsmen are on an ego trip. They believe that being different is creative. Mies van der Rohe stated it well when he said:

I don't want to be different, I want to be good.

He was different because he was good!

Walter Gropius in 1919 at the Weimar Bauhaus said it all:

No essential difference exists between the artist and the craftsman of heightened awareness... But the basis of craftsmanship is indispensable to all artists. It is the prime source of all creative work.

It has taken me fifty years to amplify what Gropius stated:

Craft is the body of structure. Optimum creativity integrates both.

Art is the soul of structure.

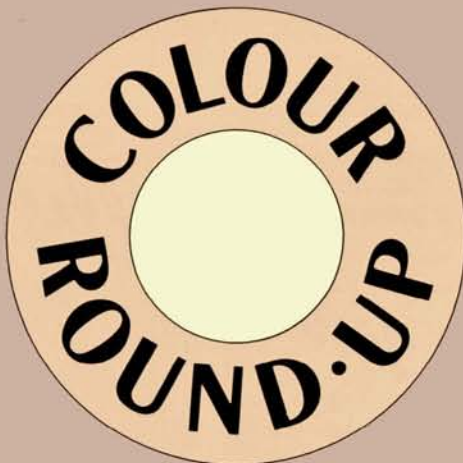
The understanding of the significance of this statement says it all. It is not craft or art. It is the integration of both.

Structure means the inherent totality of the makeup. This is what exists. Artists and scientists don't discover or invent. They expose what exists. Creative woodturning is for all time. It is not design of the contemporary for the temporary.

Nothing can express better the aim and meaning of creative woodturning than the profound words of St. Augustine:

Beauty is the splendour of truth... ■

**SOME OF THE
PROJECTS
AND PIECES
FEATURED IN
THIS ISSUE**





... AND SO DO WOODTURNERS

BRIWAX is the natural choice for turners – professionals or amateurs, experienced or beginners. Why? Because BRIWAX is easy to use, fast drying and gives superb results on lathe work.

Clear BRIWAX is especially popular with turners because it will not alter the colour of the wood it is applied to.

BRIWAX is available from specialist woodwork suppliers, antique shops and good DIY stores.

For a copy of our free leaflet giving tips and advice on using BRIWAX on the lathe, please send an SAE to us at the address below.



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AXMINSTER POWER TOOL CENTRE

WOODTURNING LATHES

CORONET	OUR PRICE INC. VAT
DM1 24" ctrs 3 speed 1/2HP	£183.00
Leg Stand for DM1 24"	£29.00
CORONET O 1/2HP 24" ctrs	£227.00
CORONET No. 1 1/2HP 24" ctrs	£355.00
CORONET No. 1 1/2HP 36" ctrs	£366.00
CORONET No. 1 1/2HP 48" ctrs	£409.00
CL1B Gap Kit for No. 1 Bowl Rest	£58.00
CORONET No. 3 36" 5 speed 3/4HP	£625.00
CORONET No. 3 48" 5 speed 3/4HP	£669.00
CL3B Bowl Turning Kit	£96.00
Strengthened Metal Legs for Coronet Lathes	£71.00

MYFORD	OUR PRICE INC. VAT
MYSTRO 40" 3/4HP 5 speed	£795.00
MYSTRO 40" 3/4HP var speed	£1149.00
MYSTRO Bowl Rest	£125.00
MYSTRO Leg Stand	£159.00

ARUNDEL (Limited stock)	OUR PRICE INC. VAT
K450 33" ctrs 1/2HP	£395.00

KITY	OUR PRICE INC. VAT
KITY 663 3 speed 1m ctrs 1HP	£614.00
KITY 666 3 speed 1.5m ctrs 1HP	£639.00
KITY 664 var speed 1m ctrs 1HP	£717.00
KITY 667 var speed 1.5m ctrs 1HP	£745.00
KITY 2267 Copier for above Lathes	£415.00

MINIMAX	OUR PRICE INC. VAT
MINIMAX T124 Universal Copy Lathe	£1499.00

Carriage charges from £9.00 to £24.00. Phone for quotation

TYME	OUR PRICE INC. VAT
SL750 (Student) 3 spd 1/2HP 30" ctrs	£229.00
Stand for SL750	£129.00
CUB 20" ctrs 1/2HP 3 speed	£349.00
CUB 30" ctrs 1/2HP 3 speed	£359.00
CUB 40" ctrs 1/2HP 3 speed	£369.00
CUB Lathe Stand	£118.00
AVON 24" ctrs 3/4HP	£489.00
AVON 36" ctrs 3/4HP	£499.00
AVON 48" ctrs 3/4HP	£512.00
AVON Lathe Stand	£140.00

N.B. Cub and Avon Lathes supplied c/w 90° Bowl Rest Assy and 4" Faceplate.

CARL ZEISS	OUR PRICE INC. VAT
HOBBYMAT Variant 24" ctrs	£189.00

STARTRITE GRADUATE	OUR PRICE INC. VAT
UNION Short Bed 3/4HP 15 1/2"	£1399.00
UNION Graduate 30" ctrs 3/4HP	£1549.00
UNION Graduate 42" ctrs 3/4HP	£1599.00
UNION Graduate 54" ctrs 3/4HP	£1699.00

ELEKTRA BECKUM	OUR PRICE INC. VAT
HDM1000 (3/4 x 16 Thread) 1m ctrs 1/2HP	£369.00

MULTICO	OUR PRICE INC. VAT
TWL1000 Lathe 1m ctrs 5 speed	£389.00
TCA1000 Copier to suit	£320.00
TWL1000 Leg Stand	£79.95

HIGH SPEED STEEL WOODTURNING TOOLS

HENRY TAYLOR	OUR PRICE INC. VAT
H51 Super Flute	£29.00
H539 L & S Gouge 1/4"	£10.90
H540 L & S Gouge 3/8"	£13.80
H555 L & S Gouge 1/2"	£17.90
H53 D/F Gouge 1/4"	£16.85
H54 D/F Gouge 1/2"	£29.70
H55 Gouge 1/4"	£6.29
H56 Gouge 3/8"	£8.61
H57 Gouge 1/2"	£11.92
H553 Gouge Forged 3/8"	£14.50
H554 Gouge Forged 1/2"	£15.18
H541 Gouge Forged 3/4"	£15.18
H557 Gouge Forged 1"	£19.99
H542 Gouge Forged 1 1/4"	£19.99
H58 Skew Chisel 1/4"	£8.86
H521 Skew Chisel 3/8"	£10.19
H522 Skew Chisel 1/2"	£11.67
H59 Skew Chisel 1 1/4"	£17.68
H523 Square Chisel 1/4"	£8.86
H524 Square Chisel 3/8"	£10.19
H525 Square Chisel 1/2"	£11.67
H510 Square Chisel 1 1/4"	£17.68
H526 Round Scraper 1/4"	£8.86
H538 Round Scraper 3/8"	£10.19
H537 Round Scraper 1/2"	£11.67
H534 Round Scraper 1 1/4"	£17.68
H537 Square Scraper 1/4"	£6.60
H528 Square Scraper 3/8"	£8.86
H529 Square Scraper 1/2"	£10.19
H530 Square Scraper 1"	£11.67
H543 Diamond Scraper 1/4"	£8.86
H544 Diamond Scraper 3/8"	£10.19
H545 Diamond Scraper 1"	£11.67
H511 Std Beading Ptg 1/4"	£6.60
H512 Std Beading Ptg 3/8"	£8.86
H532 1/2" Ptg Tool	£7.63
H513 Std Ptg Tool 3/4" x 1 1/4"	£11.48
H533 Diamond Ptg Tool	£15.85
H52 Fluted Ptg Tool	£17.81
Scrapers H514 to 20	£23.27
Side Cutting Scrapers	£12.12

SORBY	OUR PRICE INC. VAT
All HSS Handled	
Roughing out Gouges	
ST466h 1/4"	£17.10
ST470h 1/2"	£24.90
Bowl Gouges	
ST542h 1/4"	£14.10
ST543h 3/8"	£17.40
ST544h 1/2"	£21.30
Ring Tool	
ST844h 1/2"	£13.05
ST848h 1"	£18.15
Spindle Gouges	
ST451h 1/4"	£6.60
ST452h 3/8"	£8.55
ST453h 1/2"	£9.60
ST454h 3/4"	£12.00
ST455h 1"	£16.50
ST456h 1 1/4"	£13.20
ST457h 1 1/2"	£15.60
ST458h 1 3/4"	£21.60
Oval Skew	
ST814h 1/4"	£10.50
ST816h 3/8"	£11.85
ST818h 1/2"	£14.10
ST820h 1"	£17.85
Square End Chisel	
ST412h 1/4"	£10.50
ST413h 3/8"	£11.85
ST414h 1/2"	£14.10
ST415h 3/4"	£17.85
Standard Parting Tool	
ST561h 1/4"	£9.45
ST562h 3/8"	£10.80

Diamond Parting Tool	OUR PRICE INC. VAT
ST562Dh 1/4"	£16.65
Fluted Parting Tool	
ST562Fh 3/8"	£17.85
Beading and Parting Tool	
ST563h 3/8"	£10.65
Bedan Parting Tool	
ST565h 3/8"	£12.00
Round Nose Scraper	
ST434h 1/4"	£10.50
ST436h 3/8"	£11.85
ST438h 1/2"	£14.10
ST440h 3/4"	£17.85
Square End Scraper	
ST444h 1/4"	£10.50
ST446h 3/8"	£11.85
ST448h 1/2"	£14.10
ST450h 3/4"	£17.85

CORONET	OUR PRICE INC. VAT
CH600 Bowl Gouge 1/4"	£28.00
CH601 Bowl Gouge 3/8"	£17.25
CH100 D/F Gouge 1/4"	£19.50
CH120 D/F Gouge 1 1/4"	£29.00
CH200 Gouge 1/4"	£8.60
CH210 Gouge 3/8"	£9.70
CH220 Gouge 1/2"	£13.00
CH300 Skew Chisel 1/4"	£11.50
CH310 Skew Chisel 3/8"	£11.90
CH320 Skew Chisel 1"	£14.00
CH330 Skew Chisel 1 1/4"	£18.40
CH400 Sq Chisel 1/4"	£11.25
CH410 Sq Chisel 3/8"	£13.00
CH420 Sq Chisel 1"	£14.00
CH430 Sq Chisel 1 1/4"	£18.40
CH500 Ptg Tool 1/4"	£12.50
CH520 Ptg Tool 3/8"	£10.80
CH700 Rnd Scraper 1/4"	£11.30
CH701 Rnd Scraper 3/8"	£11.30
CH702 Rnd Scraper 1"	£13.00
Scrapers CH800 to 841	£27.00

LATHE FITMENTS & ACCESSORIES

CORONET	OUR PRICE INC. VAT
Genuine Coronet (for all Coronet machines)	
CWA60 1 1/2" Woodscrew Chuck	£31.30
CWA61 2 1/2" Woodscrew Chuck	£36.70
CWA70 4" Faceplate	£13.50
CWA71 6" Faceplate	£20.00
CWA80 4 Prong 1mt ctr	£10.70
CWA81 2 Prong 1mt ctr	£10.70
CWA82 4 Prong 1mt ctr	£10.70
CWA170 Thread Protector	£10.70
CWA90 Ring ctr 1mt	£6.60
CWA91 90° Back ctr 1mt	£6.40
CWA92 Cup Centre 1mt	£9.20
CWA93 Revolving ctr 1mt	£23.30
CWA100 H.D. Revolving ctr 1mt	£32.95
CWA101 Revolving Centre Kit 1mt	£81.00
CWA102 Revolving ctr 1mt	£29.10
CWA103 Cup Centre Head (for 102)	£17.20
CWA104 Thread Adaptor (for 102)	£17.20
CWA105 Conical Chuck (for 102)	£17.20
CWA150 3/4" Threaded Drill Chuck (3/4" x 16)	£39.30
CWA161 1mt - 3/4" x 16TPI Threaded Adaptor	£17.90
CWA180 Tubular Bowl Rest (3/4" or 1" stem)	£13.50
CWA130 Long Hole Boring Kit (Elf or Major)	£48.60
CWA131 Long Hole Boring Kit No. 0, No. 1 or No. 3	£43.15

TYME	OUR PRICE INC. VAT
Genuine Tyme (for all Tyme machines) state Cub or Avon when ordering	
TLA104 1 1/2" - 2 1/2" Woodscrew Chuck Set	£29.00
TLA116 4" Faceplate	£11.50
TLA115 6" Faceplate	£16.90
TLA119/120 2 Prong 3/4" Drive ctr	£8.60
TLA121/122 4 Prong 1" Drive ctr	£9.50
TLA125/126 4 Prong 3/4" Mini ctr	£9.50
TLA127/128 Lace Bobbin Drive	£10.50
TLA117/118 90° Back ctr	£5.50
TLA129/130 Cup Centre	£6.90
TLA100/101 Revolving Centre 1mt or 2mt	£22.00
TLA102/103 H.D. Revolving ctr 1mt or 2mt	£36.00
TLA102/1 3/8" dia Point for 102/103	£4.20
TLA102/2 Ring Centre for 102/103	£4.49
TLA102/3 Adaptor Plate for 102/103	£4.80
TLA102/4 Cone Centre for 102/103	£6.95
TLA105 1mt Long Hole Boring Kit	£39.00
TLA106 2mt Long Hole Boring Kit	£39.00
TLA114 Cup Chuck Set	£31.00
4 3/4" Tool Rest 3/8" or 1/2" stem	£11.50
16" Long Tool Rest	£19.00
26" Long Tool Rest	£24.00
ATL315 10" Disc Sander (Avon only)	£105.00
ATL312 Free Standing Chisel Rest	£91.00
Bracket & Cam Assy for Tool Rest	£35.00
Centre Steady (Avon only)	£105.00

APTC LATHE ACCESSORIES

These fitments fit most makes of machines, in many instances they are in stock. However, we can manufacture for any type of lathe at the same price (providing it's possible!)	
1 1/2" Woodscrew Chuck	£28.00
2 1/2" Woodscrew Chuck	£31.00
4" Faceplate	£20.00
6" Faceplate	£23.00
Revolving ctr 1mt or 2mt	£20.00
1/2" 1mt Drill Chuck	£19.50
1/2" 2mt Drill Chuck	£20.50
1/2" 3mt Drill Chuck	£24.50

1/2" Jacobs Chuck 1mt or 2mt	£28.00
1mt - 2mt Sleeve	£4.50
Centrifugal Pin Chucks (Eccentric Cam)	
Threaded to suit special Lathe up to 1"	£24.00
As above but up to 2"	£29.00
3/8" Boring Auger	£14.50
1/2" Boring Auger	£15.90
3/4" Boring Auger	£15.90
Hollow Centres to suit above (1/4" or 3/8")	£16.00
Rethreading of old Chuck	£11.50
Plug & Rethread	£15.50
(Return postage at cost)	

HSS TURNING TOOL SETS

HENRY TAYLOR	OUR PRICE INC. VAT
Set of five Miniature Tools	£32.95
Set of three	£34.95
Set of five	£49.95
Set of eight	£99.95

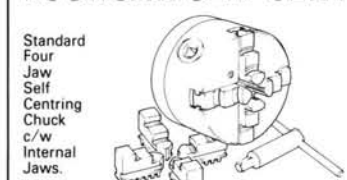
CORONET	OUR PRICE INC. VAT
6 Piece Turning Tool Set	£64.95

NEW HENRY TAYLOR HSS TURNING TOOLS (All Handled)	OUR PRICE INC. VAT
Nish Beading Tool 1/8" radius	£6.50
Nish Beading Tool 3/16" radius	£7.20
Nish Beading Tool 1/4" radius	£7.20
Kip Christensen 1/8" Parting Tool	£8.50
Raffan Scraper 1/4" x 3/8" No. 1	£10.95
Raffan Scraper 3/8" x 1/2" No. 3	£13.95
Raffan Scraper 3/8" x 1 1/4" No. 6	£28.95
Raffan Scraper 3/8" x 1 1/4" No. 12	£23.95
Raffan Skew 3/8" x 1/2" No. 15	£11.95
Raffan Skew 1/4" x 3/8" No. 16	£12.95

SORBY	OUR PRICE INC. VAT
Set of 5 Miniature HSS	£29.95
32HS Bowl Gouge Set of 3	£52.50
61HS Starter Set of 6	£79.00
81HS Spindle Turning Set of 8	£99.00
82HS Professional Set of 8	£105.95

RUDE OSOLNIK	OUR PRICE INC. VAT
No. 2 Flat Gouge 1/2"	£15.95
No. 3 Flat Gouge 3/8"	£17.95
No. 4 Flat Gouge 1/2"	£17.95
No. 5 Chisel 3/8"	£11.95
No. 6 Round Nose 1/2"	£10.95
No. 7 Round Nose 3/8"	£10.95

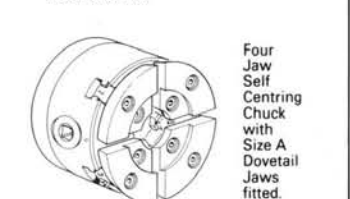
FOUR JAW SELF CENTRING CHUCK (P&P £2.50)



Standard Four Jaw Self Centring Chuck c/w Internal Jaws.	
4" 4 Jaw Self Centring Chuck	£104.95
5" 4 Jaw Self Centring Chuck	£119.95
Spare Back Plates	£29.95
Dovetail Jaws and Soft Jaws	£49.95
Size A 4" OD - 2 1/2" ID	
Size B 2 1/2" OD - 1" ID	
Wood Jaw Plates and Jaws	£48.95
Wood Jaw Plates only	£19.95
Long Chuck Keys	£10.50
Dovetailed Faceplate Rings	£7.95
Pin Chucks 3/8", 1" or 1 1/2"	£21.95
O'Donnell Spigot Collet Jaws only 1", 1 1/2" or 2"	£54.95
Special Jaws made to order	
For Harrison Graduate, Jubilee and Rockwell Delta Lathes we can supply, L.H./R.H. back plates. These back plates are threaded R.H. and L.H. and will thread on to either side of the machine without changing the back plate.	
This chuck has now become recognised by all leading international wood turners. The one key precision operation confirms it as the best chuck currently on the market.	

The Axminster Power Tools Four Jaw Self Centring Chuck utilises the precision, simplicity and reliability of an engineering chuck providing wood turners with the ultimate chuck in work holding. Each chuck comes with both internal and external jaws and is fitted with an accurately machined back plate to fit any make of lathe (state machine type). Should you decide to change your lathe, you need only change the back plate.

N.B. Standard Chuck supplied with Internal and External Jaws.



WOODTURNING CHUCK SYSTEMS (State machine)

MULTISTAR	OUR PRICE INC. VAT
Multistar Duplex Chuck c/w Jaws	£70.00
(State size of Jaws required)	
Additional Jaws A, B, C, D, E or Mini Jaws	£23.00
(State size of Jaw required)	
Screw Chuck Set (R.H. or L.H.)	£19.00
Universal Morse Taper Carrier (1mt or 2mt)	£6.00
Pin Chucks 1/2", 3/4", 1" or 1 1/4"	£7.00
Basal Flange	£4.50
Faceplate Ring B or C	£3.90
Faceplate Ring D or E	£5.90
Converter Ring	£7.95
Index Attachment	£7.20

1 1/2" Steel Jaws	£19.00
3" Steel Jaws	£23.94
Wood Jaw Plates	£6.20
NOVA	
Nova Scroll Chuck	£138.95
CORONET	
Coronet Collet Chuck (CWA10)	£41.00
Collets 1", 3/4", 3/8"	£17.00
2 1/2" Expanding Jaw (CWA30)	£35.00
1 1/2" Expanding Jaw (CWA31)	£35.00
1" Expanding Jaw (CWA32)	£33.00
Centrifugal Spigots 1 1/2", 1", 3/4"	£19.50

HENRY TAYLOR	OUR PRICE INC. VAT
Master Chuck R.H.	£79.95
Master Chuck L.H.	£94.95
Conversion Kit R.H./L.H.	£15.00
1" Pin Chuck	£21.00
1 1/2" Pin Chuck	£21.00
3/4" Screw Chuck R.H.	£9.50
1/2" Screw Chuck R.H.	£9.50

CRAFT SUPPLIES	OUR PRICE INC. VAT
Craft Supplies Precision Combination	£63.00
APTC	
3" 3 Jaw S/C Scroll Chuck	£86.50
4" 3 Jaw S/C Scroll Chuck	£96.50
5" 3 Jaw S/C Scroll Chuck	£106.50
Dovetail Jaws for 4" only	£48.95
Wood Jaw prices for 4" only	£19.95

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LION WHETSTONE GRINDER THE MOST EFFECTIVE TOOL SHARPENING SYSTEM AVAILABLE



The 8" dia wheel has a working surface of 4 3/4" in total. Optional extras available include a precision edgeguide for sharpening planer blades and four grades of grinding wheel.

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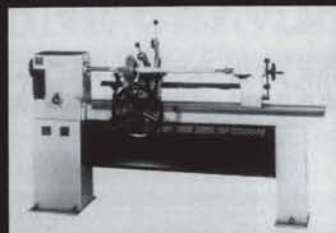
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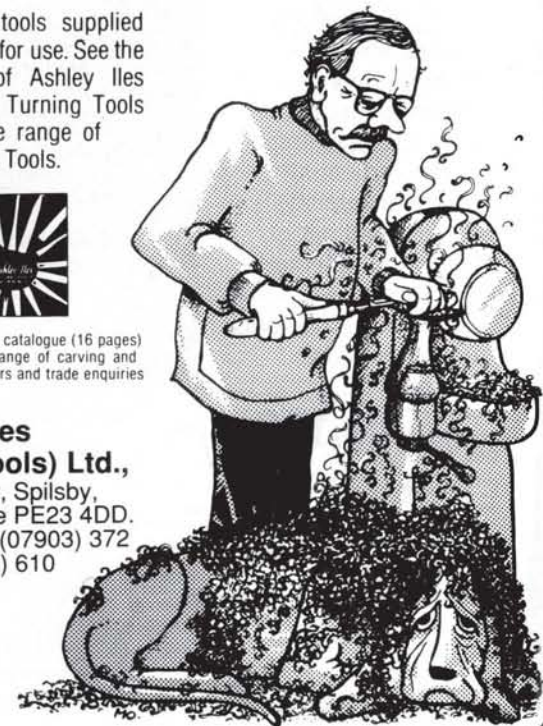
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Cecil Jordan is an independent craftsman working in a variety of materials. He has a sponsor's mark as a goldsmith but is chiefly known for his work as a professional turner. A former pupil of Douglas Hart, his work has been bought by the V and A for the National Collection, by South West Arts, Southern Arts, the Crafts Council and numerous other public and private collections. He is represented on the index of Craftsmen maintained by the Crafts Council and is a regular exhibitor at Contemporary Applied Arts. He is an Assessor for the Register of Professional Craftsmen of the Worshipful Company of Turners and a visiting tutor at West Dean and Parnham. He gives Summer School courses for the latter. Cecil's interest in ornamental turnery stems from the work done on an Evans ornamental lathe by a distant relative. He now is the possessor of this lathe. Pieces made on the machine have been presented to members of the Royal Family by the Worshipful Company of Turners — four pieces which won the Company's Gold Medal in 1924 to the Queen Mother on the occasion of her marriage and a rattle to Princess Beatrice in 1988 when she was christened.

THE LATHE OF THE ORNAMENTAL TURNER

CECIL JORDAN

'We owe a huge debt to the workmen who made them. That so many are still in use today is a tribute to the kind of work produced in individual workshops by proud and dedicated craftsmen in the years before the machine itself took over and put an end to these attitudes for decades.'



The lathe — that used for plain turning — may have been invented as many as three thousand years ago. It is a machine that belongs to civilisation; it does not lend itself to Nomadic life.

Primitive lathes may still be seen in the souks and bazaars of Cairo, Marrakesh and Istanbul — they are generally powered by a bow and thus have a forward and reverse motion. The cutting action is on the forward motion; to make use of the reverse you have to rush around to the other side. I have never done the latter, but I have turned an amber bead in a Cairo bazaar after ousting the astonished operator. I had been watching him for some time and he jokingly offered to let me try it. Most of the beads turned in these markets are plastic but other more desirable materials are usually forthcoming.

The principle of winding a cord round the work or mandrel is also to be found in the pole lathe. These were still in use on a commercial level during this century. Chair-bodgers and turners of bowls used them to turn green wood which turns much more easily than seasoned.

The invention of wheel lathes brought continuous forward motion and allowed a second operator to be employed to turn it or, in the case of wheelwrights, two strong men. Hand-operated wheel lathes were still in use in the thirties by Percy Beales. Some of his bowls are superb; modestly decorated and with beautifully crisp arrisses. He turned the wheel with one hand and used the cutting tool with the other. Wheel lathes turned by additional helpers were used to make four-poster beds, newel posts and balusters. Examples dating from the 17th century and earlier are well documented.

TREADLE

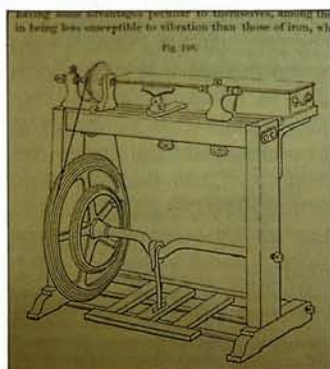
Treadle lathes powered by the turner himself gave an added impetus to the craft. And the

Evans ornamental lathe. The driving belt is the original. Overhead gear removed.

TECHNICAL

heavy fly-wheel made deep cutting perfectly possible. Some of the best turned work ever produced came off treadle lathes. There is still something peculiarly satisfying about using one; the join of the belt clacking its way over the wheels, the squeaking of the treadle, the quiet creaking of the lathe frame and the hissing of shavings curling off the workpiece.

It is a basic and very emotive experience — to produce a piece of work by one's own power and skill; and the objects the turner produced were part of the basic necessities of everyday life. From former times to the present day, bowls in their various forms — wood, clay, pewter, precious metals and now man-made materials have probably helped to increase the standard of domestic hygiene more than any other object.



Treadle lathe. Set up for plain turning. One of the superb line drawings from Holtzapffel.

Lathes were also water-powered and eventually motor-powered. Most of us have recollections of machine shops alive with revolving, flapping 4" belting joined by some device with barbarous teeth, unguarded and treated with the utmost familiarity by the operators who ambled between spinning pulleys and wheels with a dripping oil can and wads of cotton waste shouting imprecations and advice, rarely warnings.

All these machines were basically capable of being made by the village blacksmith. Everyone could see how they worked and everyone could identify with their use. A practical man would have been capable of all manner of pursuits at that time.

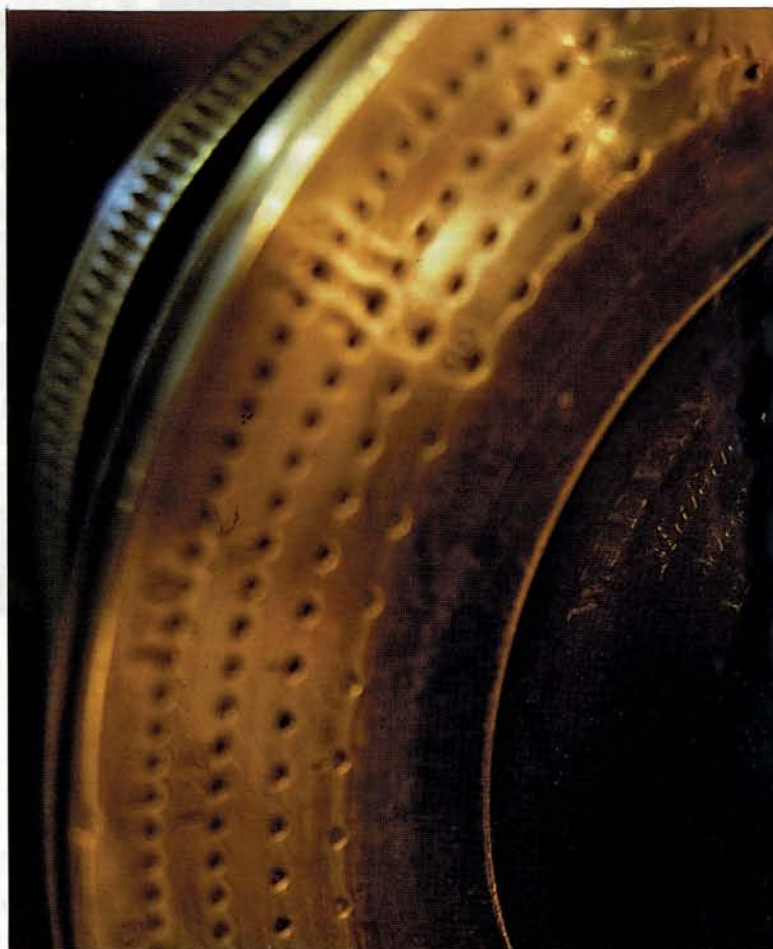
ENGINEERS

Into this scene stepped the Engineers — men of immense practical ability and vision who also mastered mathematics and geometry. They applied



Driving belt ends joined with 'hook and eye'. Original gut belt

Alternative method of joining driving belt ends. From Holtzapffel.



their capacities to the building of iron bridges, powerful steam engines and ships of iron to put them in.

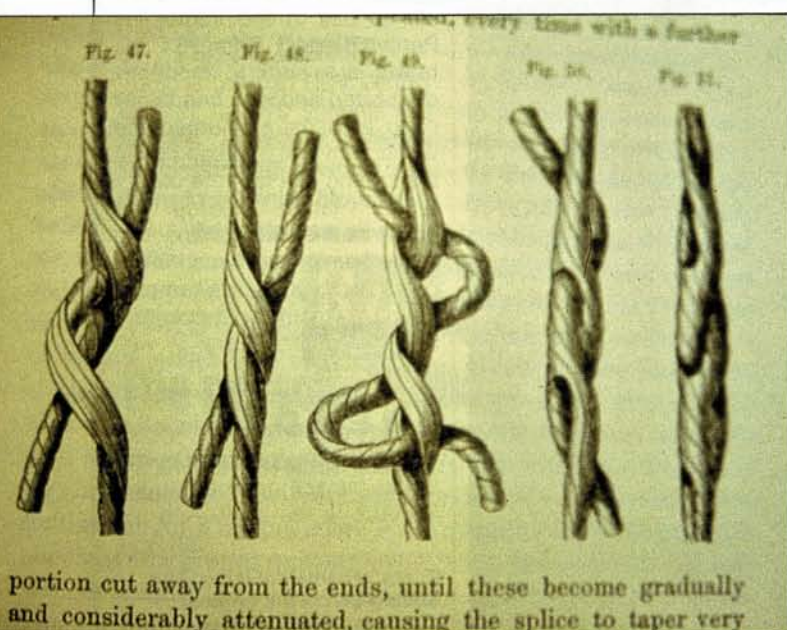
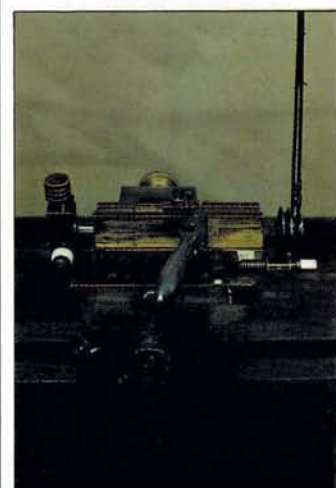
It was a vigorous age — they imagined they were on the verge of conquering the universe. They made machines which were used to make other machines which were themselves capable of producing accurate results with predictable ease. Valves, pistons and pumps, which had hitherto been made of wood and were features of every village green and farmstead, were replaced by iron. Different steels for different purposes both peaceful and warlike. It was the Industrial Revolution which touched on every aspect of a man's life. It had wide social implications and at a stroke altered the rhythm and pace of work — the machine set the speed.

HOLTZAPFFEL

Among those whose work of the 18th and 19th centuries remains as an example of the ingenuity of the age is John Jacob Holtzapffel. He came to



Ornamental slide rest with eccentric cutting frame.



portion cut away from the ends, until these become gradually and considerably attenuated, causing the splice to taper very



Maker's name on divided head.

Maker's name and lathe number on headstock assembly.

London from Germany in the 1780s and set up shop in London. His, and his descendants' attention was to be applied to anything mechanical. The scope of his capabilities is to be found in five volumes of writings of which two — Numbers 4 and 5 — are devoted to, in the first case, plain turning and in the second, ornamental turning. The Holtzapffel family attracted to them some of the finest craftsmen of their time. They set themselves standards of accuracy and finish which would be respected in any discipline. Among their range of products were lathes for plain turning and ornamental turning — between two and three thousand of them in all, and some survive.

For those not familiar with the differences between the two kinds of turning, the following brief consideration may be helpful. Plain turning

implies that the work is held between centres or on a faceplate. The power is from a source — formerly a treadle — direct to the headstock, both with stepped pulleys. Sharp tools are variously applied to the revolving work by hand — hand turning.

A further development is the holding of the tool in a fixed position on a slide rest. The slide rest is on the lathe bed but can be manipulated to traverse parallel to the lathe axis or across it. The slide rest may be capable of holding a pattern which the cutter will follow and thus execute copy turning. This type of slide rest is particularly applied to the turning of metals.

It will be appreciated that the workpiece is revolving and the tool presented to it as above. Holtzapffel, and others, put their minds to reversing this process — namely, the work should be held fixed and the driving principle applied through an arrangement of overhead pulleys and belts to revolving cutters. These cutters were to be held in frames secured in the slide rest. The frames were

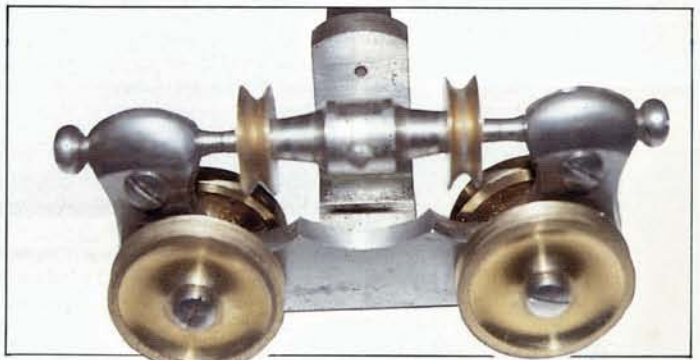
Cutting frame with angle adjustment.

to be of three kinds: vertical cutting, horizontal cutting and eccentric cutting modes. A universal cutting frame was also developed which combined these principles.

The work was held stationary using a divided head or division plate. An index was also used to secure the work for the duration of a cut, after which it was moved on for the next cut to be made. The follow on from this is that both the work and the cutters revolve at the same time in a pre-determined ratio. The mathematics and geometry of the process are significant.



Top: Original drilling instrument. Middle: Contemporary drilling instrument with Jacob chuck. Bottom: Vertical cutting frame.



Vertical cutting frame.

Horizontal cutting frame.

Eccentric cutting frame — original.

Universal cutting frame.

Detail of universal cutting frame.

complexities of ornamental turning.

Ornamental lathes follow a recognisable pattern. They have solid mahogany frames secured with long bolts. Sometimes the frame has a number of drawers, generally fitted to accept the pieces of apparatus and attachments. The bed is of iron with parallel bars. The height of the bed is several inches higher than modern lathes and thus less likely to produce the chronic back ache associated

Fitted drawers of a Holtzapffel lathe.



PLAIN AND ORNAMENTAL

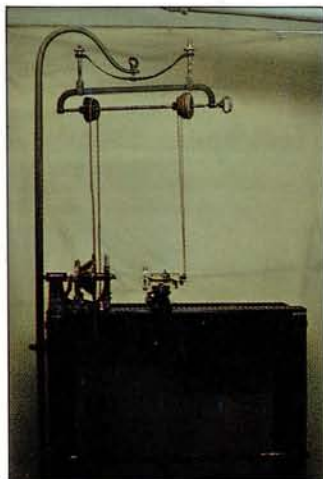
The difference between plain and ornamental turning, then, is that in the latter the tool rotates instead of the work. The work is plain turned before ornamentation. A thorough understanding and capability for plain, hand-turning is a very great advantage to all who wish to understand the

TECHNICAL

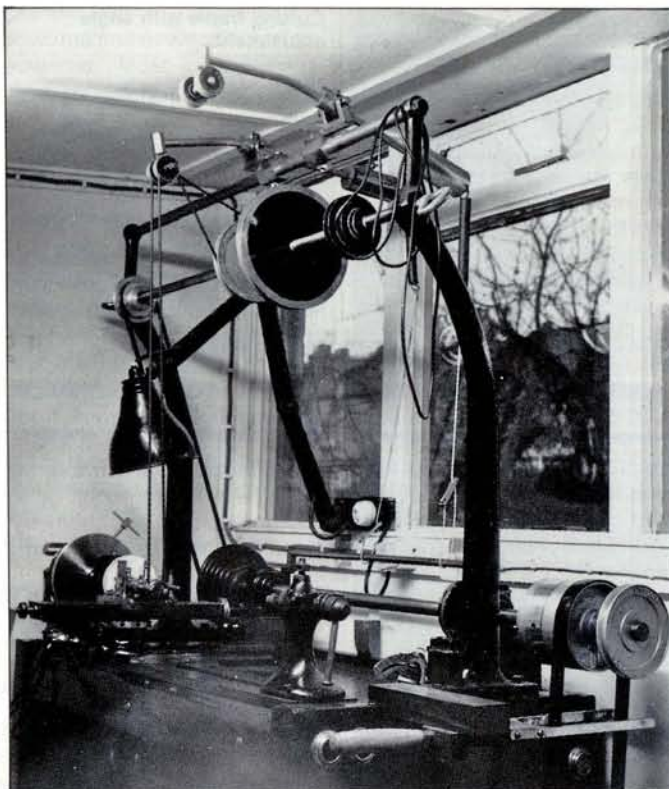


Shepherd's crook in position.

Overhead pulley in position with main drive from treadle and secondary drive to the ornamental slide rest.



with them. There is a headstock with a dividing plate, geared



pulleys, and sometimes a hollow mandrel. The mandrel is sometimes capable of traversing. The tailstock is removable and usually solid and 'dead'.

So far we have nothing different from a plain turning lathe. However, on the left hand ends of the frames of *ornamental turning* lathes is to be found a vertical rod, some 7 feet high, terminating in what is known as a shepherd's crook. This curved device carries a long, wooden pulley, generally hollow, or a

series of smaller pulleys. Alternatively there may be a curved frame at both ends of the lathe between which a long pulley or series of pulleys run.

All this is known as the overhead gear. As explained, belting runs from the treadle to the overhead pulleys and from these to the revolving cutting frames secured in the ornamental slide rest which in turn is fixed in the appropriate position on the lathe bed.

Now, in general, all ornamental

Modern adaptations to a Holtzapffel lathe. Features include: Automatic counting device; lead-filled brass tubes for tensioning; idling wheel.

lathes look something like the description above and are easily recognised for what they are. There were a number of makers, Holtzapffel set the standard and made more than anyone else. It is his lathes that the searcher for ornamental turners' lathes is likely to come across. One of Holtzapffel's apprentices was Evans who later set up on his own and produced excellent machines. Other names include Fenn, Goyen and Munro. Lathes are stamped with the maker's name and the number of the machine. In most cases, the apparatus supplied with the lathe also bears that number.

The quality and standard of workmanship of lathes and equipment was, and remains, simply superb. We owe a huge debt to the workmen who made them. Their precision, their finishes, their attention to minute detail — all were exceptional. Little escaped their attention and improvements and additions were always being made. That so many of the lathes are still in use today is a tribute to the kind of work produced in individual workshops by proud and dedicated craftsmen in the years before the machine itself took over and put an end to these attitudes for decades. ■

YOUR CONTRIBUTIONS ARE INVITED

Woodturning will pay for suitable articles, plans or projects which are concisely presented and typewritten if possible. Good commercial quality photographs — black and white or colour — are essential. Tips, letters and anecdotes are also welcomed.

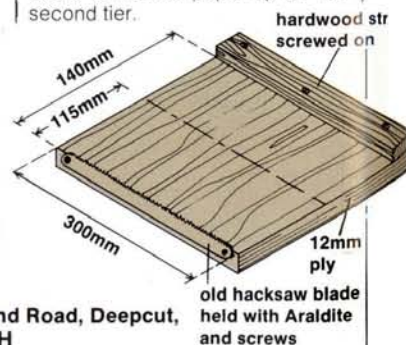
Send to the Editor,
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Lewes BN7 1XU, England.

Tip for cutting abrasive paper

Having for some time torn sheets of abrasive paper in half by folding them and hoping the tear would follow the fold, which it never does, thus wasting abrasive paper, I made the appliance shown here from a scrap of ply, a worn 305mm 12" hacksaw blade and a mahogany offcut.

The sketch is self explanatory. The hacksaw blade has the set ground off so that each tooth is a sharp point. In use, the paper is pushed against the stop, held down flat with one hand and torn by pulling it

down across the blade with the other hand. As I often use a quarter of a sheet, I scribed a line on the board to line the paper up for the second tier.



Jim Kingshott
Heatherbrae Workshop, Woodend Road, Deepcut,
Nr Camberley, Surrey GU16 6QH



Dave Regester became a woodturner, after working in a solicitor's office and going to University, because, he says, he realised he was happier making things with his hands than using his brain. He started turning full time in 1974 at a craft centre in Devon where he more or less taught himself. Dave has always made a variety of items in locally available ash, burr oak and yew because he loves the grain. He makes salad bowls, scoops and platters, which he sells through high-class kitchen ware shops, and one-off pieces, which he sells through galleries and exhibitions. Last year he had exhibitions at *Quercus*, Edinburgh, *The Ruskin Gallery*, Sheffield and *The Devon Guild of Craftsmen's* new headquarters in Bovey Tracy which holds regular exhibitions of members' work. In 1982 he was given a major award by South West Arts which helped him set up his own workshop in an old builder's yard, part of which is also his home.

Simply Good for Salads

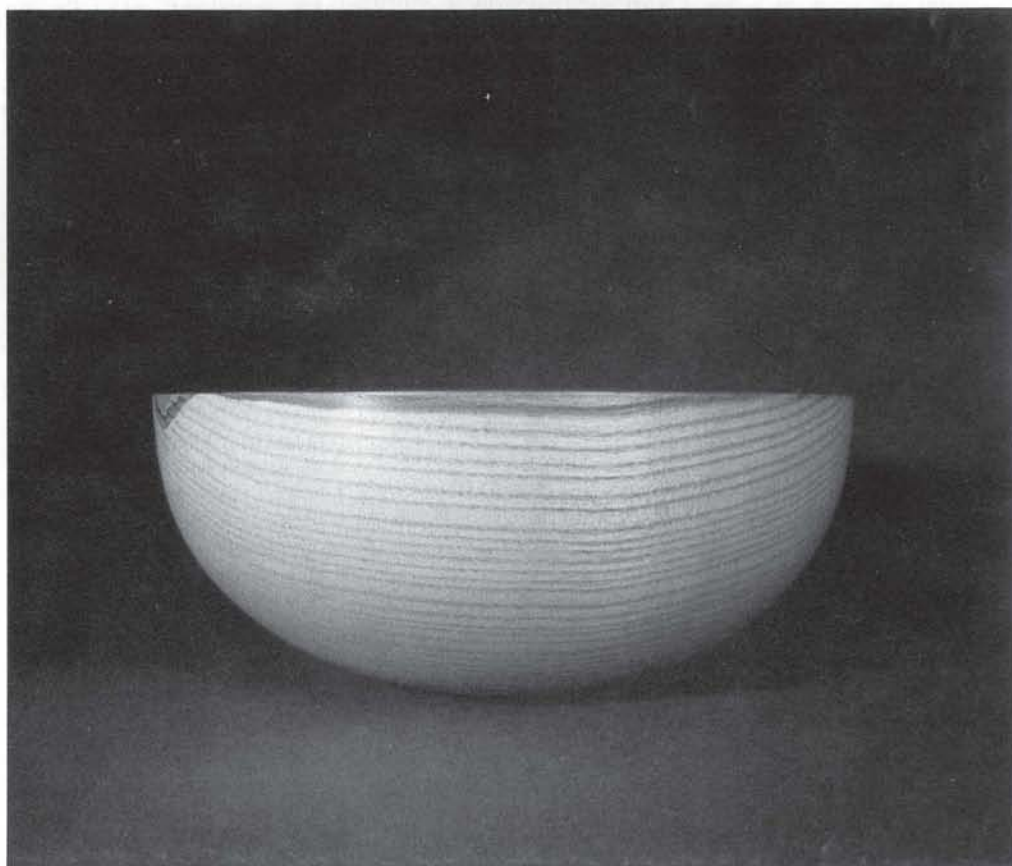
DAVE REGESTER

The first of a two-part article in which the author describes, in more detail than is normally the case, the making of a salad bowl.

not be so stunning that it puts the salad in the shade. Take the bowl in photo A. You will see that the shape is simple but not uninteresting. It is not strictly a simple curve because that is an arc of a circle. If you were to make your bowl's profile exactly circular it would not satisfy your eye because that shape leads the eye to follow the curve and beyond.

The bowl in the photo has a compound curve. If you were to make a profile of one part of the curve, it would not match the next part. This looks good to me, probably because our eyes are more discerning than we tend to think. If there is sufficient interest in a shape to hold your attention, you are satisfied. If there is too much detail, you become satiated; and if there is too little variety of curve you get bored.

I know from personal experience that we tend to be so absorbed



Design and Preparing the Blank

There is no real practical reason for serving a salad in a wooden bowl. However, if you wish to add to the aesthetic appeal of

the meal and enjoy the experience of handling a piece of smoothly turned wood, nothing can beat using a wooden bowl, especially if you have turned it yourself.

So, a salad bowl should look good on the table, but it should

A 254mm x 102mm 10" x 4" bowl with compound curve

by the difficulties of making a bowl that design is relegated to the backburner. This explains why everyone, at the outset, produces a bowl with straight

PROJECT

sides and a wide bottom, with a very abrupt curve at the bottom corner.

The only thing to be said for this shape is that it maximises the capacity. It not only looks boring but, even though you have not removed much wood from the outside, you have made a lot of work for yourself inside where it is more difficult to work. I am sure we have all had problems with that tricky sharp curve where the base meets the side.

If you can hold yourself back from the sensuous delights of shaving production for a moment and spend a little time with pencil and paper, you may find that what you produce gives you more than just the pleasure of having made something. You might actually make something worthy of a longer look.

Why not draw your blank from the side view (in other words a rectangle) and draw in a few profiles of possible bowls. It is cheaper and quicker than turning all those shapes. You will find some shapes more satisfying than others. If you make cardboard profiles of the shapes you like you can then see if they work as bowls.

It is surprisingly hard to master a simple shape but once you have done so, it is easy to reproduce with a flowing sweep of the gouge.

Too many people, I believe, are obsessed with bases. What marks there may be on the base are not relevant to function or appearance. If you wish to disguise the method you used to hold the bowl on to the lathe, that is up to you. Do not be bullied, by those who have learned to obliterate all evidence, into believing you must do the same. In some ways it is more honest to leave the screw holes visible (though tastefully filled) than to hide them. Never, in any event, be tempted to stick green baize on the base; it would not survive many washings.

Timber

Many timbers are suitable for salad bowls. Sycamore is the traditional one. It is easy to turn and stands up well to washing, though in common with many other woods it must not be allowed to remain damp. Ash and cherry are also suitable and

easily obtained from your local sawmill.

You can use dry timber for your bowl, if you can obtain it, but it will be expensive, especially if you have to buy it in small quantities. Savings may be made by buying in bulk, which is what some members of local chapters of the Association of Woodturners of Great Britain do. But even greater savings can be made by buying unseasoned timber in bulk and roughing out your bowls. Not only is wet timber cheaper than dry, it will have fewer cracks and will be easier to turn.

Here is how to rough out a salad bowl using wet timber. The tools you will need are as follows:

- 1 Lathe and faceplate
- 2 6mm $\frac{1}{4}$ " bowl gouge, 10mm $\frac{3}{8}$ " bowl gouge, 6mm $\frac{1}{4}$ " depth gouge, 32mm $\frac{1}{4}$ " domed scraper and 12mm $\frac{1}{2}$ " square ended scraper (see photo B).

B Gouges and scrapers



C Marking the circle

- 3 Calipers, rulers, screw driver, finishing paper (60, 80, 100, 180 and 220 grit), vegetable oil and wax.

4 Benchgrinder

Your bowl awaits you in the plank; it is now up to you to liberate it. Before cutting the plank, examine it carefully for defects. Look on both faces for cracks, knots and bark intrusions. There will be some

cracks on the end of the plank, however wet the wood, because it will have dried before being planked. It is a good idea, if you are unsure of the depth to which the cracks penetrate, to cut slices off the end of the plank with a chainsaw until there are no cracks left.

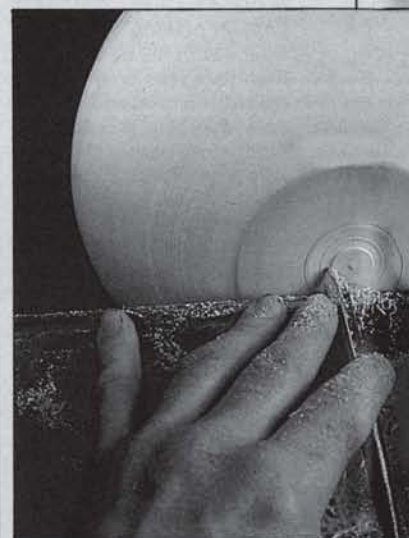
The bowl in the photo is 250mm x 100mm 10" x 4". So to allow for shrinkage you should set your calipers to describe a circle 275mm 10 $\frac{3}{4}$ " diameter. Mark a circle on the wood and leave a clear dent in the centre so you can locate it again (see photo C).

Detach the blank from the plank using a chainsaw. If you do not have a bandsaw, use the chainsaw also to trim the blank to a fairly circular shape. I recommend a chainsaw, if you do not already possess a bandsaw, because they are cheaper to buy and easy to hire for occasional use. Do be careful with them and **always use the correct safety gear which you should be able to hire with the saw.**

Look carefully at the blank and decide which face you would like to be the top of the bowl. Look first for defects in the timber that you may be able to turn off. For instance, there may be a knot in the centre of the blank which you will be able to lose if you make that the inside of the bowl.

If you do not mind screw holes in the base of your bowl, there is no reason why you should not screw your faceplate to the blank and rough it out in one operation. You must make sure you locate two of the screw holes in a line parallel with the grain because, when the bowl dries, the wood will shrink less along the grain than across it. You will need to remount the blank, using these holes, when it has dried. I have made many hundreds of bowls in one operation, using just two screws. But if you are not very experienced, you may prefer to use four screws while roughing out and then only two for the subsequent re-turning.

If you wish to turn a bowl with no sign of how you attached the wood to the lathe, you could leave a foot on the bowl and remove it when you have finished, losing the screw holes in the foot. This is rather



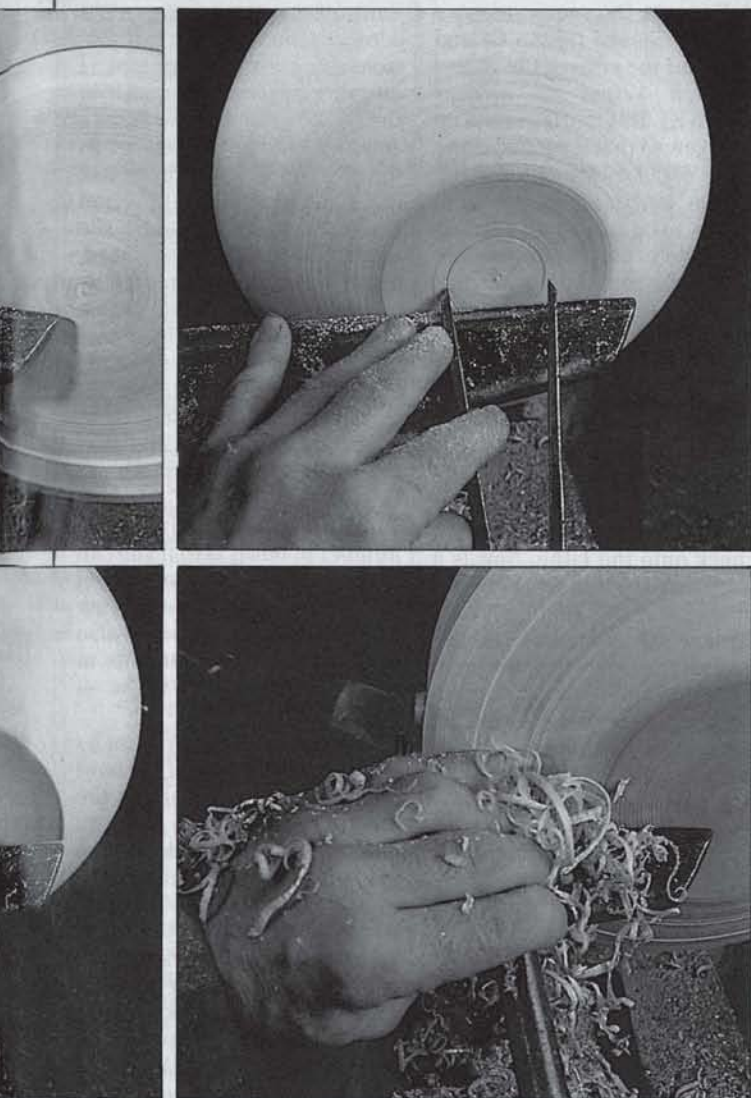
D Making the first cut with a 10mm $\frac{3}{8}$ " gouge

E Deflecting the shavings

wasteful and will work out expensive if you make many bowls.

I shall describe a method, using the precision combination chuck supplied by Craft Supplies and the Axminster Power Tools' four jaw chuck, which is the most efficient method I have found for making a bowl from wet wood leaving no mounting marks.

Once you have worked out which face of your blank is to be the base you must ascertain the centre of the other face . . . unless this is the face on which you originally marked out the blank. You can forget all the complicated methods you may have read using arcs of circles and log tables. All you need to do is stick your calipers where



you think the centre is and try to describe a circle. If this does not coincide with the outside of the blank, move the calipers about until it does and then push the centre point in to make a definite mark at the centre.

'I have covered a lot of ground that is basic to turning, leaving out none of the little wrinkles I have learnt from other people and my own experience.'

If you have a single screw chuck that is strong enough, you can use this to mark the blank. If not, you must use a faceplate, which takes a little longer. To mark the screw holes I use a circle of hardboard, the same size as the faceplate, with holes in it corresponding to the screw holes and the centre. You simply place the circle over the centre mark on the blank and

F Marking the base

G Hollowing out the recess

mark the places for the screws with a bradawl. Then just whack the bradawl and you should be able to drive home the screws

without further ado. The speed you turn the bowl is up to you. My only advice is that you should start at a slow speed and work up to what you find comfortable and safe. The first cut should be made with the 10mm $\frac{3}{8}$ " gouge, with the rest across the base, cutting from the base towards the lathe (see photo D). This is cutting downhill so that the fibres you

are cutting are supported by the fibres on the other side of them. The gouges I use are made of high-speed steel because they keep their edge longer than carbon steel. As you will see from the photo, I grind the bevel right back as this makes the tool more versatile.

The tool is held on its side, with the open part of the flute pointing away from the work, cutting with the part of the edge that is just below the point. As with most tools, you start off with the part of the tool where the bevel meets the body of the tool rubbing on the work. This does not cut any shavings but you then slowly move the end of the tool handle, with your hand which is not on the tool rest, using the fingers of your hand on the rest as fulcrum, so that the edge of the tool bites into the wood. At this moment you must start your sweeping cut.

Never stop with the tool still in contact with the wood as this is likely to result in a catch or at least a mark on the work.

Get into the habit of doing cuts in sweeping arcs and end a cut by raising the cutting edge off the work and carrying through away from the work. If you work in sweeping arcs you will produce smooth curves which are easy to finish smoothly. If you make tentative jabs, your work will have many grooves in it which are remarkably difficult to remove.

Space does not allow me to go into the intricacies of tool sharpening here. Suffice it to say it is vital your tools are sharp at all times and that your bevels are concave.

The grip you use to hold the tool onto the rest will vary with your manual dexterity and personal preference. My grip is unusual and would not suit everyone. But it does mean I have a sensitivity of control over the tool which enables me to respond to slight changes in the textures of the wood which those with more firm grips on the tool may not be able to do. In any case there is no need to hold onto the tool so that your knuckles whiten. You are then in no position to respond to the wood.

The same principle applies to your grip on the end of the handle. As with all hand tools,

both hands work together to put the edge to the work so that it cuts the wood. The motive power is provided by the lathe. If you are having to push hard you are doing something wrong. Either the tool is not sharp or you are using the wrong part of the edge, or you are holding the tool at the wrong angle.

When something is going wrong, change some aspect of what you are doing. Do not keep flogging away or you will dishearten yourself.

As you progress you will learn to hold the tool so that, not only do you cut efficiently, but you can also (as in photo E) deflect the shavings away from your face.

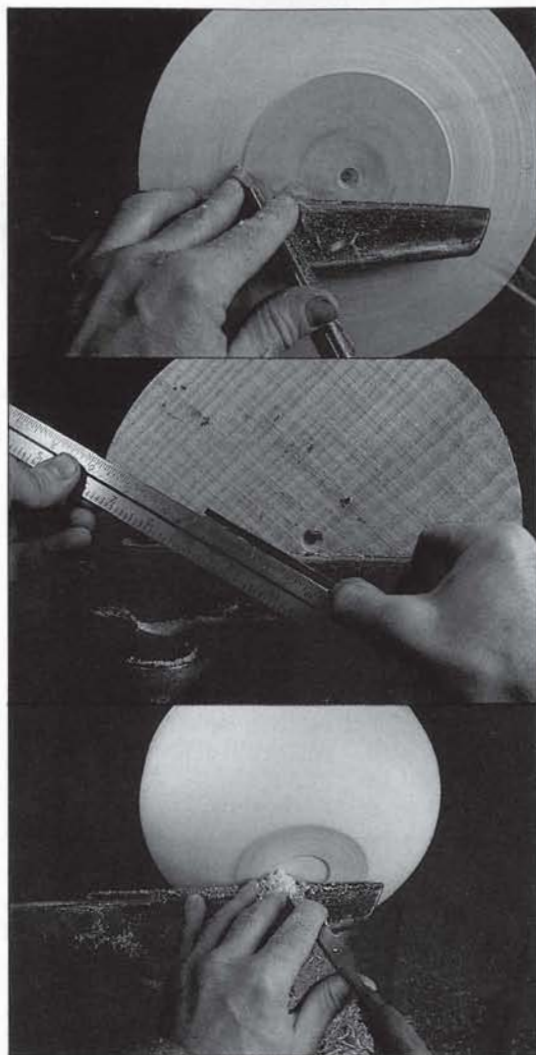
The first cuts on the outside of the bowl should start with the tool rest parallel to the base of the bowl and as close to it as possible. It should be below the centre so that the tool is pointing upwards. The exact height will depend on your own height and the angle at which you hold the tool.

As you remove more wood, stop the lathe and move the rest around the outside of the bowl so that the tool is supported as close to the lathe as possible. This is to prevent the tool chattering, a result of the shaft flexing between tool rest and cutting edge.

The base of the bowl has to be wider than the chuck and I suggest 90mm $3\frac{1}{2}$ " to 100mm 4". A small base makes the bowl float on the table and should give you no problems with stability unless you go too far. The part in between the base and lip is where you have to make your decisions as to shape. But since you are roughing out the bowl, there is some margin for error as long as you are not too far from the final shape you require. You will be able to look at the bowl while it is drying and think about the final shape at your leisure.

When the outside of the bowl is roughed out, make a recess on the base to fit your chuck. Make the base flat using the 10mm $\frac{3}{8}$ " gouge's long edge and, working from the centre outwards, leaving a slight hollow in the base to ensure it will stand firmly. With your calipers set at the size of the chuck inserts (in this case 70mm $2\frac{3}{4}$ "), mark the base using just one of the points (photo F).

PROJECT

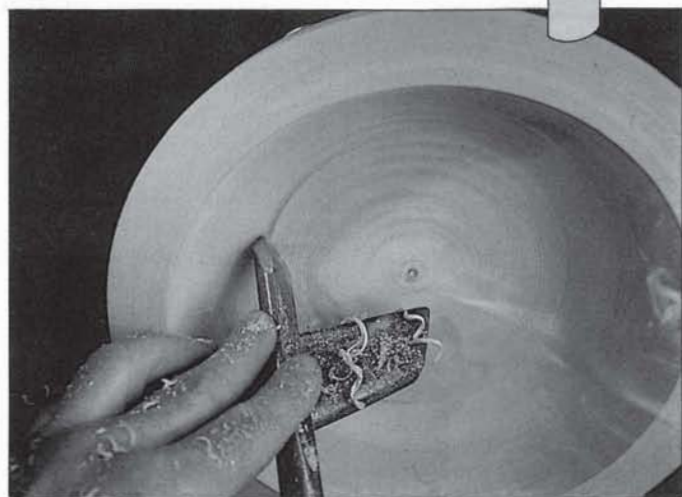


H Finishing off the edge of the recess

I Measuring the required depth

J Levelling off the face of the bowl

K Letting the tool do the cutting

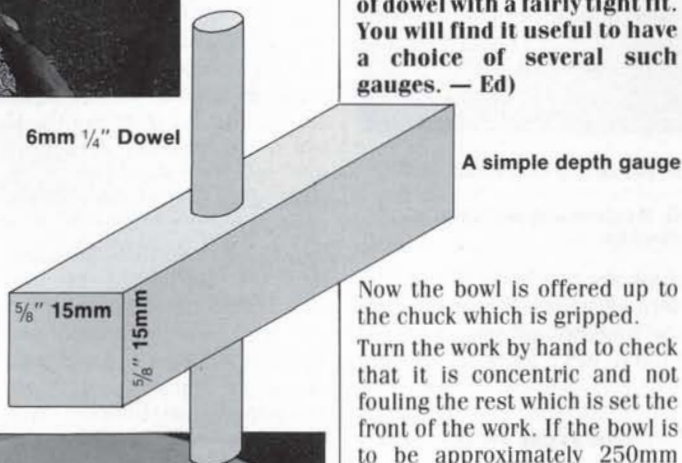


Hollow out the recess using a 6mm $\frac{1}{4}$ " gouge (photo G) and finish off the edge of the recess using a 12mm $\frac{1}{2}$ " scraper (photo H). This tool is ground on the skew so that it produces the angle of cut to match the angle of the inserts. The depth of recess need not be as deep as the insert. But until you are proficient you should make it about 6mm $\frac{1}{4}$ " deep to ensure your bowl is firmly gripped.

Before you remove the bowl from the lathe, it is a good idea to check that the chuck fits the recess.

Remove the work from the lathe, take off the faceplate and then screw the combination chuck onto the lathe. Now is a good time to measure the depth of the bowl by standing it on a flat surface and holding a ruler against the side. I usually forget until it is on the lathe at which stage you have to hold one ruler across the base and another at right angles to it from the lip.

(To overcome this problem, why not make a simple depth gauge. You can construct one in moments from a suitable length of hardwood drilled in the centre to accept a length of dowel with a fairly tight fit. You will find it useful to have a choice of several such gauges. — Ed)



Now the bowl is offered up to the chuck which is gripped.

Turn the work by hand to check that it is concentric and not fouling the rest which is set the front of the work. If the bowl is to be approximately 250mm 10" across, the aim should be to across make the wall thickness approximately 25mm 1" all round. An even wall thickness will promote drying and 25mm 1" should give you sufficient thickness to turn off bulges caused by warping and any small surface cracks that may occur during drying.

You must therefore deduct 25mm 1" from the depth of the bowl to give you the inside depth. To ensure you do not go too deep while hollowing out, drill a hole in the blank to the depth required. I do this with a

6mm $\frac{1}{4}$ " gouge ground straight across with the bevel at 30° from the flat of the tool. I measure the required depth on the tool as in photo I and make a small cone-shaped opening in the centre. Then I push the tool in, holding it with the hand being used to measure the depth. Do not press too hard, and pull the tool out frequently to clean off the swarf. On no account leave go of the tool unless it is jammed in so firmly that your hand is burning. In this event step back smartly in case the tool flies out and stop the lathe before trying to extricate it.

The beauty of roughing out a number of bowls is that you can experiment with your tool technique without worrying about finishing. You are also cutting the wood when it is in the best condition to do so — when it is wet.

Start the hollowing process by levelling off the face of the bowl (see photo J) then enlarge the hole in the middle so that you end up with a shallow cone extending to the rim, which of course will be 25mm 1" thick. If you wish to mark this thickness with a 12mm $\frac{1}{2}$ " scraper this will also give you a stop to prevent your gouge skating off the edge of the bowl. You should soon reach the stage where you are sufficiently familiar with the angle at which you hold the gouge for this not to be necessary.

It really is the most satisfying feeling to whack out the centre of a bowl in about five minutes. In fact it seems to take longer to clear up the shavings than it does to do the turning! It is best to speed up slowly, however. Do not force the pace and always let the tool do the cutting (photo K).

When the little dot that your depth gouge has left in the centre finally disappears you have gone far enough. You should then check with the calipers that you have an even wall thickness. Perfect accuracy is not essential at this stage and with experience you should be able to do this by feel. ■

In the second part of this article, to be published in the next issue, the author describes how to dry roughed out bowls and then re-turn them.



Ron Kent lives in Honolulu, Hawaii. As if that were not enough, his translucent wood bowls are in private, corporate and institutional collections including Museum of Fine Art (Boston), Metropolitan, American Craft, Cooper-Hewett (New York), Renwick Gallery (DC) and the Vatican.

Ron is 59, married with two grown-up children. He is a graduate engineer (UCLA, 1957) and a 30-year veteran stockbroker. He resigned as vice president of a New York Stock Exchange firm to start a small independent brokerage office and a municipal bond mutual fund of which he is now president. Ron teaches adult education courses and hosts a weekly call-in radio talk-show on personal finance and investment. He also conducts a special 8-hour seminar for artists and craft people titled *Practical Finances for Impractical People* and seminar workshops on personal creativity. Ron spends about fifteen hours a week at his woodturning and sculpture. His bowls command premium prices among collectors and he readily admits that he likes being well paid for doing things he loves to do. 'It's as if I were a nymphomaniac working as a Park Avenue callgirl!'

TRANSLUCENT NORFOLK ISLAND PINE BOWLS

RON KENT

Hawaiian turner Ron Kent is well known for his beautiful translucent bowls made from Norfolk Pine. In this article he throws light on the process he has developed to give them their unique lustre. The process takes up to six months and as many as 60 finishing cycles.



A few years ago (*quite* a few, come to think of it) my wife gave me a lathe for Christmas. She had seen it on sale at a neighbourhood store for 35 dollars, which included two blades for the built-in saber-saw attachment.

Though I'd never used (or wanted) a lathe of any sort, I did want to show my appreciation, so I went out on the beach to find some promising driftwood. I clamped the machine to my workbench, sharpened an old wood-chisel and

made something that looked akin to a clumsy wooden whiskey bottle. And I was hooked!

I gradually upgraded my equipment through a couple of commercial models to my present home-made minimonster and experimented with various tools. For materials I've always preferred local findings to the exotic imports. Collecting logs and cuttings has indeed become a hobby in itself.

Translucent Bowl
180mm 7" high x 230mm 9"
diameter.

Technique has evolved with experience, but my primary challenge has always been to figure out my own way to do things, designed around my personal limitations on time, money, tools, materials, knowledge and skill.

During my first few years of woodturning I worked with every type of wood that grows in Hawaii, plus some strange unidentifiable varieties that have floated to our shores as driftwood. I've always viewed each log as a unique challenge of what most pleasing shape I might get from it, and what techniques to use to achieve that shape. (I am much more concerned with the finished product than I am with the methods and techniques of achieving it.)

My early experiences with Norfolk Island Pine were a natural outgrowth of my experiment with local woods. I don't remember where I found my first Norfolk Pine log, but I worked it as I would any new piece of wood.

The tree itself is characterised by symmetrical layers of branches sprouting uniformly around the circumference, at regular intervals. Each branch comprises a vermillion knot extending radially from bark to pith. There may be as many as eight such knots in each layer. I quickly recognised these knots as an important element of design and shaped the bowl around them.

The finished bowl had an attractive dusty-ivory colour with grey-black wash of spalting. As is my wont, I rubbed on a layer of boiled linseed oil and was amazed . . . for about two minutes . . . at the rich golden hues and sharp dark contrasts. Even as I watched, the oil soaked into the wood leaving a dull matt finish only slightly nicer than the original wood.

Simple enough! I oiled it again and immediately restored the lush surface . . . for another two minutes.

The oiled surface was too beautiful (and I too stubborn) to accept this kind of defeat. Somewhere there must be a point at which the wood would retain its lustre. Perhaps if I poured oil over the surface? Immersed the whole bowl in oil? Immersed it and allowed it to soak for hours, days, or weeks?





THE PROCESS

Here is the process that finally evolved. Before removing the bowl from the lathe, I sand it with 60 grit, then 80, and finally 100. This is the finest I use to this point.

I remove the bowl from the lathe, cut off the shafts and grind/sand the surfaces smooth. The entire operation takes about fifteen minutes and will be described in detail later.

The bowl is then immersed in a large vat (over 100 gallons) of boiled linseed oil and allowed to soak at least twelve hours. It is then removed, wiped dry, and allowed to stand at least one day. This soak/dry cycle is continued at least a dozen times over the next few weeks. Experiment has proved that duration of the soaking period is immaterial. Six months is no different than overnight. It doesn't matter how long it soaks, only how many separate times.

The next phase in my finishing process is also a cyclical one. Instead of soaking, I apply the oil with a pad of 150-grit wet-or-dry sandpaper, lightly sanding both surfaces of the bowl. Then I wipe dry and allow to stand at least overnight. This cycle may be repeated as many as fifty times over the next few months.

As the process nears completion, the bowl retains the translucent lustre longer and longer with diminishing patches of drying.

Occasionally I'll go to finer grades of sandpaper (320) for the last dozen treatments, but not usually. (Perhaps we'll discuss my ideas of design, aesthetics, and art-versus-craft later in this or a subsequent article.)

I consider the oiling process complete when the translucence and lustre remain undiminished. Then I repeat the cycle another half-dozen times.

Now comes two or three applications of caruba paste wax applied with a pad of 0000 steelwool and polished off with a fresh dry pad of the same!

Translucent Bowl.
254mm 10" high x 305mm 12" diameter.



Translucent Shallow 'Bowl'.
102mm 4" high x 533mm 21"
diameter.

'Bottle-Form'.
203mm 8" high x 305mm 12"
diameter. (Not hollow)



Translucent Bowl
254mm 10" high x 355mm 14"
diameter.



Translucent Bowl
254mm 10" high x 305mm 12"
diameter.

THE PROCEDURE

Now let's go back and take a more detailed look at some of the steps I've been describing.

After stripping the bark off my log, I mount the log between centres. A typical log may be 510mm 20 inches in diameter by 460mm 18 inches long and weigh about 80 pounds soaking wet. Newly felled Norfolk Island Pine is indeed soaking wet to the core.

My lathe has a 50mm two-inch-diameter live spur centre and a heavy-duty ball bearing dead centre. I put my lathe in 'neutral' and jockey the log around until it is statically balanced. Hmm . . .

Maybe a bit of clarification is in order.

First the bit about 'neutral'. I drive my lathe with a 220 volt, 1½ horsepower motor connected by fixed-ratio pulley to a junkyard automobile transmission. A second fixed-ratio pulley goes to the head-stock. Lathe speed is varied simply by shifting gears, and *neutral* allows free turning of the shaft.

In the best of all possible worlds we could determine the exact centre of gravity of each log and mount it to turn smoothly at the flip of our switch. With care and enough trial-and-error recentring you can approximate this condition if you are more patient and less willing to compromise than I am. Myself, I'll settle for an eyeball centring. By using a slow initial speed for my first rough cutting (250 rpm), even the heavy logs cause very little vibration.

My first cutting operation is to form a true cylinder, and the first tool I use is a broad heavy scraper.

I sharpen the tip and apply the tool in such a way as to *cut* in the same fashion a plane cuts a board. This operation produces a continuous, uniform 'chip' that gathers on my tool, up my arms and finally in a mountain at my feet as the log is virtually 'peeled' to a 50mm 2 inch diameter at the headstock end. This will be the bottom (outside) of the bowl.

The right hand (tailstock) is shaved to the largest diameter cylinder the log will allow and this full diameter carried back out about half the length of the bowl, then tapered to the 50mm 2 inch diameter spur centre.

It isn't all scaper work. I do alternate the cutting chore with a 25mm 1 inch roughing gouge.

The end which will be the top of the bowl is first trued with a half-inch round-nosed scraper and/or a 15mm 5/8 inch deep flute gouge. Now we're getting to the things I do differently.

Using the 'fingernail' configured gouge I start shaping the *inside* of the bowl. I cut a relatively small diameter hollow around a central shaft. *This shaft will protrude from the inside bottom of the bowl to the dead centre as long as my bowl is on the lathe!*

I cut in until I encounter the knots. Up to this point we've been talking about *craft*. Now it's time to become an artist. Everything I've described has been preparation and now it's

time to start designing my bowl.

I study the configuration of the knots and try to determine the most aesthetically pleasing way to incorporate them into the design of a vessel. If I cut straight across them I will have a pattern of circles. A diagonal cut yields ellipsoids and a flat cut along the knot gives a starburst radiating from the pitch.

THE AESTHETICS

Artistic design deserves an article of its own. For now, suffice it to say that I apply my own aesthetic criteria and design my bowl's interior to highlight and interact with the knots, the pith and the grain characteristics of the log.

I design, cut, scrape and sandpaper the interior of the bowl to completion before I get back to the exterior. And I do it with the previously described shaft coming out from the centre of the bowl.

When the inside is completed, I start cutting the outside contour to match. I alternate between a variety of gouges for most of the external shaping but the final fine cutting is done with the tip of a spear-point 'scraping' tool.

The outside contour follows that of the inside (of course) with a thickness indicated by the size and shape of the vessel. My typical 510mm 20 inch bowl may be about 2.5mm 0.10 inches thick at the rim, gradually increasing to 6.25mm .25 inches near the bottom centre.

I tend to like a 'foot' that seems to levitate my bowl above a supporting surface, and a hollow coved effect within that foot. (Now we're back to design aesthetics.)

A quick series of sandings with 60 then 80 then 100 grit, and the bowl is ready to come off the lathe.

The inner shaft and outer nub are ground out using a rotary rasp and a die grinder, followed by flap-sanders in the same die grinder. I can't dawdle over this step because the wood is drying and shrinking even while I work on it. If I take too long I am likely to have one or more shrinkage cracks along the rim, so it is crucial to immerse the bowl in oil as quickly as practicable.

I've already described the immersion/dry and oil-sanding/dry cycles earlier in this article. I'd like to explain how and why the process works so well, with my wood. I'd like to, but I can't. There's an awful lot I myself don't understand about it. The process evolved as a combination of intuition, trial-and-error, and lucky accident. Indeed it still is evolving, because I certainly have not stopped experimenting.

Let me close this article with an invitation. Would you like more detail on any of the steps I've described? Clarification? Please write to this magazine and I'll answer for all of our readers.

And if you ever come through Hawaii, be sure to give me a call. ■



Keith Rowley's love affair with wood began at an early age. His father, a Derbyshire miner, was determined that Keith should not follow in his footsteps but learn a trade. So he served his time in the joiners' shop, making pit-pony shafts, carts, wheels and other items of joinery and turnery for the mines.

Most of all he liked to use the huge woodturning lathe in the corner of the workshop. To encourage him, Keith's father bought him a new 8' x 6' shed and an early model Coronet lathe to practise on at home. The demise of the coal industry in south Derbyshire in the late fifties prompted Keith to join the Nottingham City Police. He retired early from the Force eight years ago (as Detective Superintendent) and has been woodturning professionally ever since.

Keith thinks of himself as a general turner; he is prepared to tackle anything if the price is right. But it is a lonely existence, so he combines his commercial turning with private courses of instruction. Additionally, he teaches the craft at South East Derbyshire College of Further Education. He also demonstrates regularly at the major woodworking shows. He enjoys doing so tremendously because, he says, 'I am meeting my favourite people — workers in wood'.

Copy Woodturning Child's Stool

KEITH ROWLEY

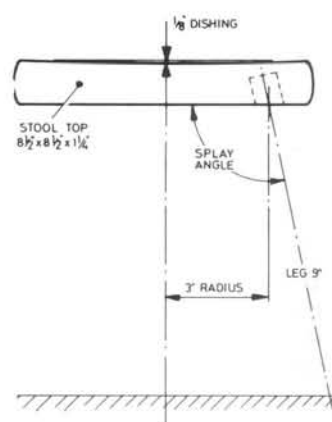
The project reproduced here is one of three which appear in the Copy Woodturning chapter of Keith's book *Woodturning: A Foundation Course* which was published during the summer by the Guild of Master Craftsman Publications Ltd.

Keith describes the project as a fairly simple and straightforward piece of spindle turning combined with faceplate work which can be developed into a useful and saleable commodity — a child's three-legged stool.



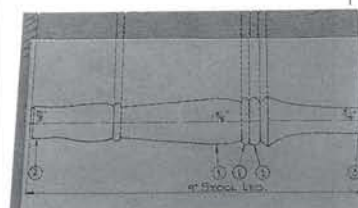
For this, choose some hardwood such as ash, beech or oak. I have made use of oak in the example. All that is required are three pieces 255mm 10" long by 38mm 1½" square for the legs and one piece 215mm 8½" square by 32mm 1¼" thick for the seat. The overall measurements can be drawn out full size on a piece of card or plywood from which we can determine the angle of splay for the legs (1).

1 Full-size layout to determine leg splay angle.



Legs

The profile of the legs is drawn separately on thick card and this is stuck to a piece of 3mm ⅛" plywood to serve as a 'rod' or marking stick. The salient points are then projected to the front edge of the plywood and a slight V-groove is made on these marks with a chisel or three-cornered file. The grooves will facilitate the accurate location of a pencil when marking the whirling timber. (Note that the numbers on the rod indicate the three differing diameters, 2). This device will



2 Full-scale drawing of stool leg stuck to a piece of plywood to serve as a rod. Note the V-cuts on the front edge for pencil location.

PROJECT

of course only indicate where the main design features will be located. It will not assist with the various diameters that form part of the design. For this we need to make use of verniers, calipers, etc. to assist in sizing-in to the required depth. Alternatively, the appropriate diameters can be cut out of some 3mm $\frac{1}{8}$ " thick plywood, aluminium or brass sheet, or anything *less* than the width of the sizing tool, and they will have to be numbered to accord with the numbers on the rod (3).

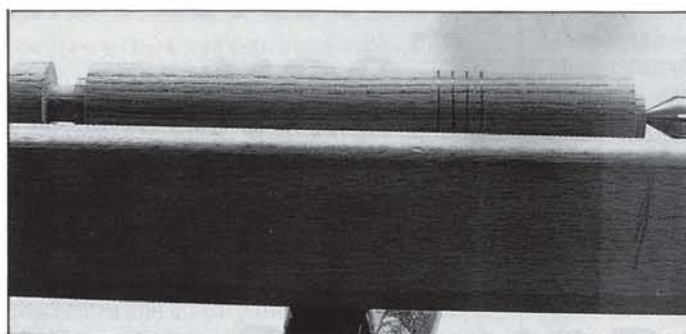
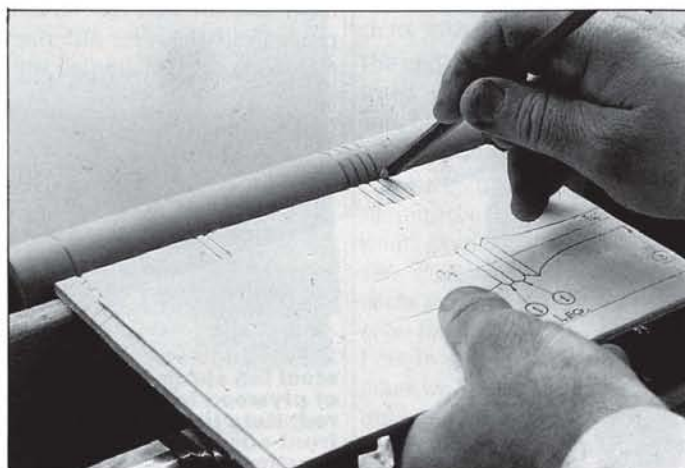


3 Plywood sizers to be used on the legs, numbered 1, 2 and 3 to accord with the diameters on the rod.

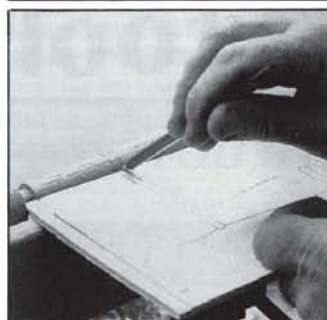
Mount the first leg in the lathe (about 2000 rpm) and reduce the stock to a parallel cylinder with the roughing out gouge, making use of sizer No. 1 to arrive at diameter 1 (35mm $1\frac{3}{8}$ "), the thickest part of the leg. Move the toolrest close to the work and ledge the rod on it and close to the whirling stock. The point of a pencil is then pushed into the V-grooves to scribe or mark the overall length and the position of the twin beads, and V-cut near the top of the leg (4).

The other sizing cuts can now be

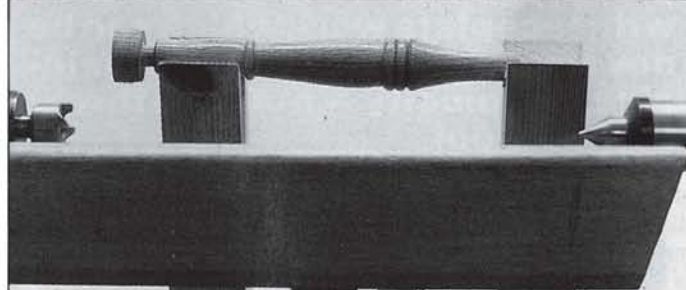
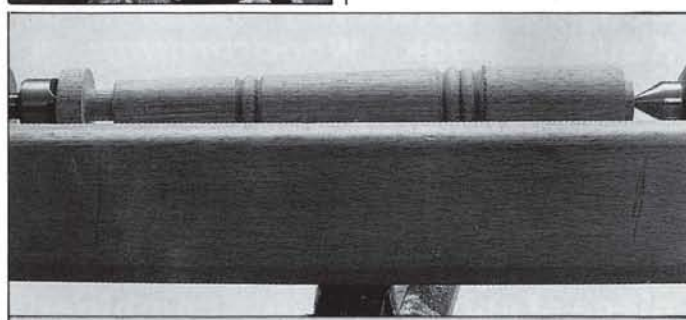
4 The rod being used to set out the stool leg.



5 How the leg should look after the sizing cuts have been made.



6 The rod being used (after the tapered section has been shaped) to mark the location of the single bead.



8 The completed leg, sited behind the lathe on V-blocks, will serve as the master copy.

made. (I have deliberately used only three different diameters so as to keep the first copying exercise simple. It is *method* I am concerned with at this juncture.) The parting tool should be used in the one-handed mode as described on page 59 with the sizers held in the other hand. First, part in on the waste side of the bottom of the leg (headstock end) to a diameter of about $\frac{1}{2}$ ". (This diameter can be 'eyeballed' as it is not important.) Now use sizer No. 2 (a full 22mm $\frac{7}{8}$ ") to determine the diameter of the base of the leg. Finally use sizer No. 3 (20mm $\frac{3}{4}$ ") to determine the diameter of the top of the

leg. This measurement is critical as it forms the joint with the 20mm $\frac{3}{4}$ " hole to be drilled in the underneath of the seat and it should be a good push fit.

When all the sizing cuts have been completed, the workpiece will be as shown in 5.

The design of the legs, between the 'twin' beads and the bottom, is formed on a tapered line, so the first step in the shaping is to cut this taper with the roughing out gouge, followed by a planing cut with the 25mm 1" skew chisel. The rod can now be offered up and the position of the single bead can be marked in on the whirling wood (6).

The toe of the 12mm $\frac{1}{2}$ " skew can now be used to make V-cuts on the marks indicating the beads and to develop them into the finished profiles, after which the leg will be as shown in 7.

The same tool or a spindle gouge can be used for the remainder of the shaping, although the skew chisel will be needed to cut the tight intersections. The diameters adjacent to the beads are not determined by sizers. It is quite all right to 'eyeball' these, and you will be surprised how quickly you develop the ability to do this accurately. The slow hollow section between the twin beads and the top of the leg can be fashioned with the roughing out gouge.

If the tool work is good, sanding can be done with nothing coarser than 150 grit paper, followed by 220 grit. A handful of shavings will burnish oak to a pleasing shine. At this stage I would apply a coat of sanding

sealer and 'cut it back' with 320 grit when dried, which is almost instantly coarser. Now remove it from the lathe and position it on a couple of V-blocks in front of you so that you can keep glancing at the master copy when turning the other legs. **8** shows the finished leg mounted on the blocks behind the lathe.

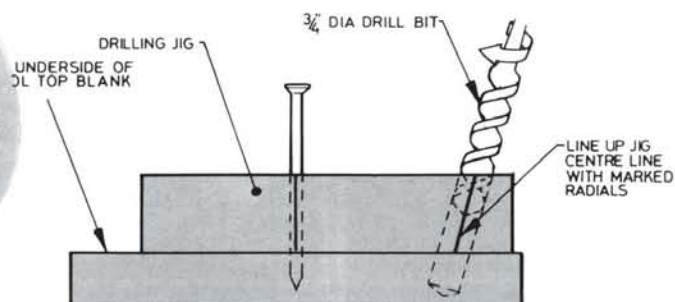
Seat

A block of wood slightly over 215mm $8\frac{1}{2}$ " square is prepared and the underside planed flat. Determine the centre and set out the circumference with a pair of dividers. Now scribe a concentric circle 32mm $1\frac{1}{4}$ " in from this line, which will be the line on which the holes for the legs will be bored.

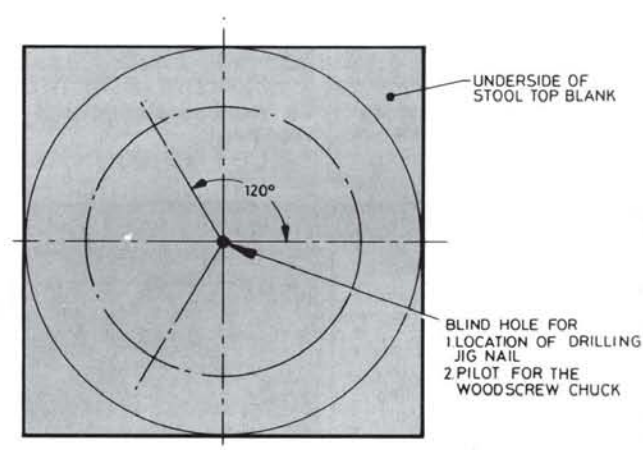
The dividers (set at the same radius) can now be used to 'step out' six equal points on the inner circle, alternate marks indicating the position of the holes. All these marks should be joined up to each other by pencil lines and then a pilot hole drilled in the centre for the wood screw chuck (**9**).

The blank can now be cut to a circle on the bandsaw (or by hand), following which the angled holes can be bored. There are several ways of doing this and probably the easiest is to use the drill press with the table suitably canted. Very few beginners will possess such equipment, so I shall explain how to do it by hand using a brace and bit. (It can also be done by making a boring jig that fits on the lathe.)

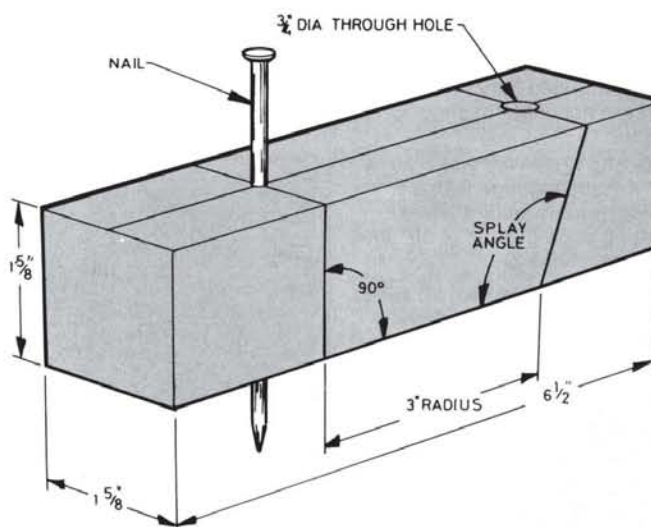
The angled holes need to be accurately bored and this can be achieved by making a simple jig with a 20mm $\frac{3}{4}$ " hole bored at the required angle, determined from the original drawing and transferred with an adjustable bevel. **10** and **11** give the relevant measurements and it is important to gauge in a centre line on the top and ends so as to line up the jig with the marks on the seat. The holes are blind; so to prevent boring right through, a piece of wood of the calculated length is cut and bored all the way through. This is then slipped on to the bit and



9 Determining the position of the three legs.



10 Constructional details of the drilling jig.



11 Method for producing the splayed holes.

PROJECT



12 Boring jig in use. Note the G-clamp and depth stop.

used as a depth gauge. **12** shows the boring jig clamped to the workpiece with the brace and bit in use.

After the holes have been bored out, mount the seat on the woodscrew chuck and set the speed of the lathe to 1000 rpm. True up the edge and top of the stool with the bowl gouge.



13 The completed seat section.

The radius on the edge is formed by gouging from small to large diameter, the gouge held well over on its side and pulled towards you. The shape can be refined with a 25mm 1" square scraper if necessary. The slight dishing of the seat to make it more comfortable is again fashioned with the bowl gouge and cleaned up with the 25mm 1" domed scraper. The seat can now be sanded, burnished with shavings and given a coat of sanding sealer, **14** shows the completed stool.

Assembly

Apply a coat of glue to the joints and hammer the legs to the bottom of the holes. Allow the glue to set and a final light sanding with a piece of worn 320 grit paper will prepare the stool for a couple of coats of

Danish oil. These pieces are extremely saleable, and as well as being used by a child, they can become footstools or plant stands, **14** shows the completed stool. ■



Recently I was asked by the editor if I would test a woodturning gouge from America and report on its performance.

When it arrived I found it was one of Jerry Glaser's turning tools. Jerry, a well known woodturner and engineer, has long been mindful of the shortcomings of many woodturning tools. In consultation with other leading woodturners, he has over a number of years experimented with various steels and designs and has now produced a range of turning tools of exceptional quality. Until recently these were available only in America but are now obtainable in Great Britain.

The one I received was a large (1") shallow gouge with a 6" blade, a thumb-nail-shaped cutting edge ground at 45° and

Opposite: Bert Marsh tests the Glaser turning tool shown below.



TEST REPORT

Bert Marsh puts a Glaser high vanadium turning tool through its paces.

a long (19") ribbed shot-filled red aluminium handle. It looks unlike any other turning tool I have seen and is far heavier, but one is immediately aware that it is an extremely well engineered tool.

Sceptically, I inspected and tested it but after a time found many of my doubts were unfounded.



The weight of turning tool handles has been argued about for a long time. To increase the weight of wooden handles often meant increasing their size, making them at times somewhat unmanageable.

Why the loose shot-filled handle? At first I thought it was to allow for adjustment of the weight by removing or adding shot. Later I was to discover the loose shot was to absorb the shock, restricting vibration reaching the user's hands, especially when making heavy cuts. Certainly the handle is exceptionally comfortable and its design provides a firm gripping surface.

The large shallow round blade makes the gouge extremely apt for shaping the outside and inside of large bowls. I found it could be used equally for roughing and finishing cuts.

The tool is listed as a spindle and/or Stocksdale type gouge and, for large work between centres, it again can be employed for roughing and finishing cuts.

For all its differences, for me the overriding advantage of the Glaser gouge is the limited number of times it needs sharpening. This is due to the extremely hard-wearing high vanadium content steel used for the blade. It outperforms all previous steels used for turning tools.

Of course a tool of this quality is more expensive but I am sure the gouge is a worthwhile investment, as no doubt are the other types in the range. A note of them follows:

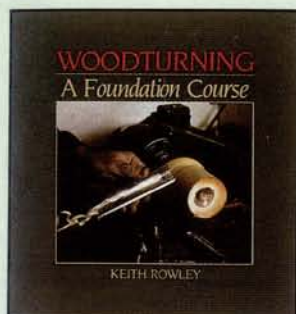
	Blade Length	Handle Length
$\frac{5}{8}$ " Stocksdale type gouge	9"	16"
$\frac{3}{8}$ " Bowl gouge	8½"	16"
$\frac{5}{8}$ " Bowl gouge	9"	16"
$\frac{3}{4}$ " Bowl gouge	9"	16"

There is also a $\frac{5}{8}$ " Glaser/Stocksdale gouge which Jerry developed in collaboration with Bob Stockdale, the well-known American turner.

I understand the editor has contacted Jerry Glaser and invited him to write an article about the development of his turning tools, including an account of the various steels used and the problems he set himself to conquer. ■

REF NO 729

Woodturning: A Foundation Course



By Keith Rowley
Published by Guild of Master Craftsmen Publications Ltd.
160 pages Paperback
About 300 photographs and line drawings further elucidate the excellent text.

£12.50 (\$14.95)
ISBN 0 946 819 203

Some years back I encountered Keith Rowley demonstrating at one of the national exhibitions. I liked his approach and enrolled for a 2-day course. At the time, I had just about got the hang of things but tool sharpening was a real problem.

Two days saw me on the road to success. Keith Rowley rescued me from bad habits — in turning of course — and tool sharpening became a pleasure instead of a moment of anxiety. So I was intrigued to take a look at this book. Hands-on experience is always the best approach but, frankly, now I have absorbed this book, it is even better than the course.

Apart from telling the raw beginner everything he needs to know, it provides much more: you share Rowley's lifelong love of wood, enjoy his warm humour and before you know where you are you too will be on the road to success.

What I like and admire about this book is that the author does not insist on this or that, like so many books on woodturning, but happily advises. This advising approach is everywhere.

Keith's advice on buying the minimum is excellent. So many novices are inclined to buy sets of tools and then long

WOODTURNING BOOK REVIEWS



All books reviewed can be ordered through our WOODWORKING BOOKS BY POST department — for yourself or as gifts for friends anywhere in the world. Please add £1.50 UK (\$3/£4 overseas) per book for postage and packing.

afterwards wonder what some are for. The comment that 'in the course of a day's commercial turning, I rarely use more than five tools', is pertinent.

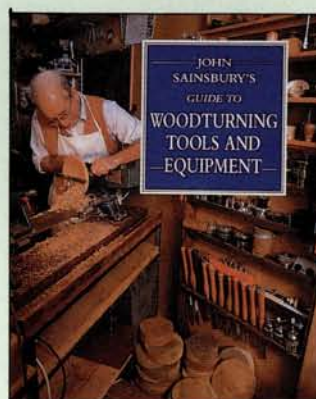
Frankly, although I have probably read most books on woodturning, from Frank Pain onwards, and am even conversant with classics like Holtzapffel, Keith Rowley's book provides the clearest description of tool use I have yet come across.

Then we get to the real nitty-gritty: turning between centres, faceplate turning, copy turning, sanding and finishing, boring and routing on the lathe. This is just a brief outline, but all the essential information is soundly and clearly covered, and then you are steered through a series of projects: turning your first bowl, a child's stool, staircase baluster, a plinth, bud vase, table napkin rings and stand, pepper mill and lastly a standard lamp. Apart from providing a thorough grounding, Rowley's book offers many hints and tips throughout and suggests some invaluable jigs readily made in the workshop.

Although I started turning over 20 years ago, I did not do it seriously until I bought a lathe 10 years ago. The mistake I made then was to dip into every book on woodturning. This only retarded progress. Take my advice — get Keith Rowley's book and stick to it — you will master the skills of woodturning much more quickly.

REF NO 691

John Sainsbury's Guide to Woodturning Tools and Equipment



Published by David & Charles.

256 pages Hardback
Almost 300 black-and-white photographs and line drawings.
£14.95 (\$ 30.00)
ISBN 07153 93367

Yet another book by John Sainsbury, but thankfully it is not just another one to swell the ranks of the already extensive literature for woodturners. Definitely a book with a difference.

John has made a whistle stop tour of Australia, New Zealand, Sweden, North America and the UK to bring you the latest details of all chucks, turning tools and impedimenta needed by the turner. To the best of my knowledge, you will not readily

find this information elsewhere between two covers. These chapters particularly are most helpful and are not just a catalogue of equipment commercially available, but written from the author's experience of using everything in his own workshop. As he has said in one of his previous books, 'The advantage of so many friends worldwide!'

Apart from the equipment, John Sainsbury also looks at some of the newer, more innovative lathes when considering the 'dream machine', and gives helpful advice on choosing the lathe itself.

Tool maintenance and the various approaches to this are also dealt with, although he has covered these subjects in a more extensive book already published by Guild of Master Craftsmen Publications. Safety is covered, and the section on making your own equipment, which includes various wood chucks, will be welcomed by turners wishing to economise or extend their repertoire.

The chapter 'Giants of the Craft and Their Tools' is most enlightening, although we wish a few more could have been included. Those featured are Ed Moulthrop, Jim Thompson, Willy Levine, Kurt Johansson and Dennis Stewart.

The appendices at the end are very useful for turners unimpressed of the now extensive literature on woodturning, including magazines. Similarly, those working in isolation will welcome details of the various associations worldwide that have sprung up.

Coronet owners will perhaps be disappointed that the 'Coronet system' is not too extensively covered and Tormek users can report that the Tormek grinder is now fitted with the faster cutting manmade stone instead of the natural sandstone wheel, although the latter is still available. These are rather minor quibbles, however, on a useful book with a difference.

The information contained in this well illustrated volume will guide those trying to assess their future needs and particularly what chucking system to favour. It will be of interest to all who turn wood. ■

RICHARD RAFFAN



■ Bowl, 240mm 9½" diameter.
Banksia, sand-blasted

11



■ Baby rattle. Casuarina

5



■ Boxes. Casuarina,
50mm 2" diameter

12



■ Grass tree,
400mm 16" diameter,
400mm 16" high

8

Richard Raffan was born in 1943 in England. He began to turn wood in January 1970, after opting out of a well paid executive job in the London wine trade. With the encroachment of high technology, he concluded that the sooner he gained more practical skills the better.

As a woodturner he quickly established the basis of what has become an enviable international reputation, making practical objects for everyday use with output split evenly between 'one-off' gallery pieces and limited production runs.

In January 1982 Richard Raffan emigrated to Australia where he has extensive family connections. There he has been able to concentrate on 'one off' pieces, continually exploring functional forms based on traditional European turnery and Eastern ceramics using native timbers.

His books, *Turning Wood with Richard Raffan* (with a complementary video) and *Turned Bowl Design* have been widely acclaimed and are now also available in French and German. Currently he is working on a book and video of Woodturning Projects, again for The Taunton Press, for publication within the next few months.

Photographs 1 to 6 are projects from the book; 7 to 14 represent his standard production items.

He is concerned, he says, that as turners we squander much of our material, so he now concentrates on designs which conserve as much material as possible. Bowls are nested and hollow forms are constructed so that he preserves the centres for smaller bowls.

The totems, nesting boxes and rodents are an attempt to make the whole business of turning less pretentious and arty whilst offering projects which turners can have scattered around other than in their living rooms. ■

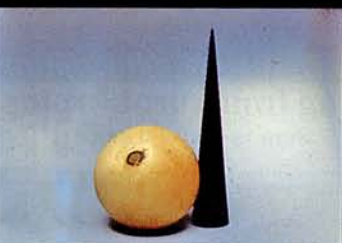


■ Bird nesting box.
200mm 8" diameter **3**

■ Cocobolo. 200mm 8" diameter **7**



■ Bowl. Jarrah burl.
460mm 18" diameter **13**



■ Huon pine sphere
(150mm 6" diameter) and
macassar ebony obelisk **2**



■ Grass tree bowls.
c. 200mm 8" diameter **10**



■ Set of spillikans.
Macassar ebony **14**

■ Totem poles. 1200mm 48 3/4"
high. 200mm 8" diameter **6**



■ Hollow form. Mahogany. Made
in two pieces with the insides
saved for other bowls. Also saved
four rings from around the top
and foot for frames and
lamination in other projects **1**



■ Boxes. Huon pine.
150mm 6" max diameter **9**



■ Rodents. 300mm 12" long.
Rough turned garden ornaments **4**

Reg Sherwin started working for a living with his hands in 1955 when he joined the Army. He signed on for regular service and got his choice of trade as an Armourer in the Royal Electrical and Mechanical Engineers. After eight months' basic and trade training, he was posted to Hong Kong, ending up with a Gurkha Battalion. 'It was the making of me,' Reg says. 'The Gurkha soldier's fighting qualities are world famous, and his firearms have got to be right; the Armourer's duties are to see that they are right. But I never knew what was coming through the Armourer's shop door next. Locks, bicycles, typewriters, we had to repair them all.' Unfortunately Reg contracted kidney stones and that marked the end of his army career. His next job was as a development fitter in the aerospace industry. After some six years in the industry, the last two of them on production control, redundancy struck. This was in 1969. Reg had first started woodturning in 1966, having been inspired by Geoff Peters who wrote for *Practical Woodworking*. So in 1969 Reg set himself up as a self-employed woodturner, having got the promise of 'as much work as you can do' from an occasional business customer, who then packed up and went to Denmark. 'With friends like him, who needs enemies?', Reg reminisces. From this start Reg now demonstrates, teaches, writes about, and occasionally has the chance to practise, the craft of woodturning. He can usually be seen at his teaching workshop at Avoncroft Museum of Buildings, Bromsgrove.

SO YOU'D LIKE TO TURN PROFESSIONAL

REG SHERWIN

The author of the book *Pleasure and Profit from Woodturning* discusses what it takes to make a reasonable living from turning.

At some stage in their turning careers many hobby turners wonder about trying their chances on a professional or semi-professional basis. The factory floor worker dreams of self employment away from the foreman. I know I did. The office worker dreams of getting out of the rat race and shaping wood on a lathe for a living, instead of for relaxation in the evenings and at weekends. I know I did.

Whether to take the plunge. That is the big question. Working for yourself has been likened to incarceration in a treadmill. A hell of a lot of walking with not even a change of scenery to show for it. A bit like the following huskies in a sledge team I suppose.

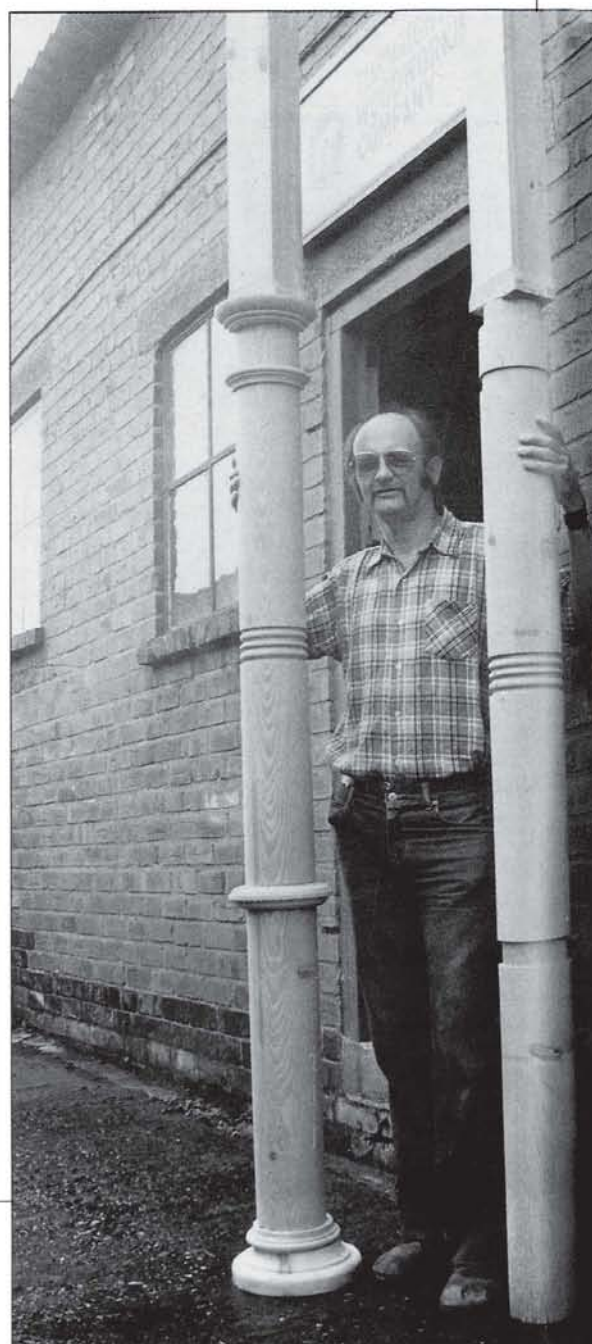
My own experience is that self employment as a woodturner is not so much like being in a treadmill as trying to get to the top of a 'down' escalator, each step on the infernal device being yet another incoming bill which has to be surmounted.

At least in a treadmill you could stop for a breather from time to time, but escalators keep moving. Stand still for a moment's self congratulation and you move rapidly in a rearwards direction, returning to the bottomless pit from which you have just struggled to extricate yourself.

If you get the impression I regretted taking the step into self employment way back in 1969, then you are partly right. The first ten years were the worst, then the next five, then a couple more, and now only the odd one or two.

DECISIONS

The decisions I needed to take all those years ago were legion. Paramount among them were:



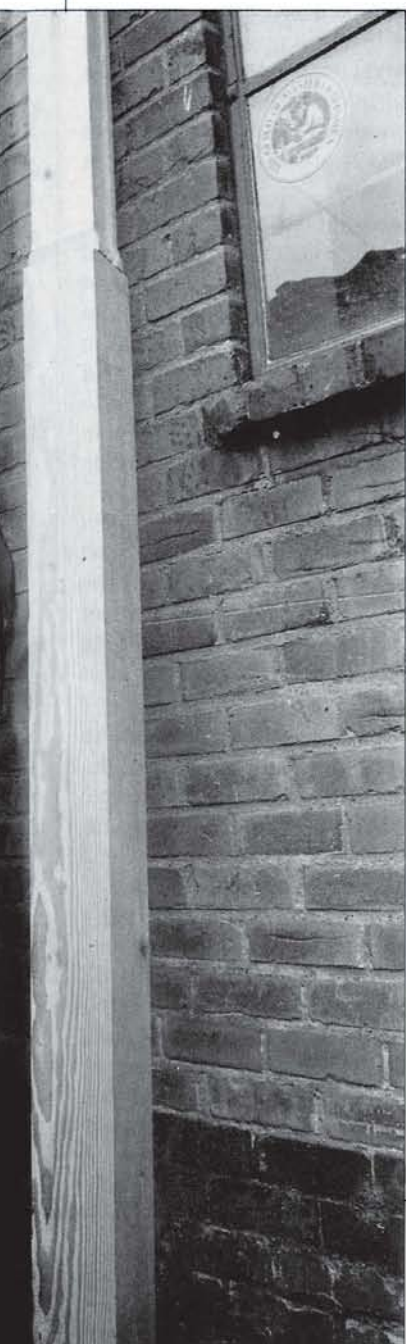
The Workshop at Avoncroft



One of the first demonstrations at Avoncroft



Reg needs a long rest before doing this type of work



Should I work from industrial premises or my garage at home? Would I still enjoy the craft as a full-time occupation rather than as a hobby? Did I have enough practical and commercial skills to survive in what I had been told was 'not a good time to start out'? (In my experience, they haven't got any better during the last 20 years.) Would I be able to find sufficient outlets for my work?

Regarding work premises, today's would-be entrepreneur seems either to be looked upon with a blind eye or ignored completely by local authorities when it comes to work places. 'Provided there are no complaints from the neighbours then we don't mind' might sum up the current thinking of many councils. This was most certainly not the case back in 1969. And so my problem therefore was one of finding somewhere which was acceptable both to me and the council. We didn't have the plethora of commercial starter units which every third village along any classified road now seems to boast. And even if they had been available in abundance, I probably wouldn't have been able to afford one anyway. My solution was to search for — and find — a small first floor workshop alongside a canal, actually in my own village. The rent was low, serving occasional canal holiday makers in the ground floor gift shop being part of the deal.

I would recommend anyone thinking of setting up as a woodturner nowadays to first ask around in his own area for suitable premises which are affordable. How suitable a work place is depends upon what it is you are going to make, and how you are going to market it.

Do you want visitors to come to you — a workshop full of visitors isn't very productive — or will you go out and find them? If you are taking your goods to the market place then you must allow for packing, unpacking, setting up and travelling to and from venues. All of this takes time. You must also allow for the cost of hiring your sales area at the venue.

If you are going to sell through your own shop then it must be manned. This will cost money either in direct wages or in lost production time for yourself when someone opens the shop door. And if it takes you 20 minutes to sell a £1.50 bud vase then, to try and recover some of your lost time, you're going to have to sell them a large fruit bowl as well.

COSTING FORMULAS

If you decided to sell through retail outlets, then you will need to allow them something between 60 per cent and 120 per cent mark-up on your items, depending upon the outlet and the item. Will the public still buy at these prices?

A conversation I have from time to time has my informants saying they are going to sell their work on market stalls or at a car boot sale. My usual response is to ask 'What do you as a buyer

look for when you go to such places?' 'Bargains of course' is the usual reply. I then ask 'Can you sell your work at "bargain" prices and still make a profit?'

This brings me on to a very important subject — *how to arrive at a realistic selling price for a piece of work?* Looking in shop windows for something similar, and basing your asking price on this, is one way. But there are pitfalls. Is your product *really* as good as the one in the shop? Could your selling venue attract the shop buyer and find them in the same frame of mind, or might they be thinking of carboot sale bargains? There are a number of costing formulas that can be applied but space prevents me going into them in any great detail here. The one I use is explained at length in my book, 'Pleasure and Profit from Woodturning'. A summary of the formula follows.

Add up all your outgoings for the year, including rent, rates, all types of insurance, phone, power, heating, travel, postage, advertising, stationery, cost of repairs to machines, cost of maintenance to workshop, consumables, tools, etc. Add on your own expected wages, which *always* come last, then divide the total by the 48 working weeks in the year.

This gives you the weekly running cost of your venture. You now divide this by five days for the daily cost and again by six actual working hours for the hourly cost. And this is the cost to you. But only the cost in time! You don't want to stay in the same place on the escalator do you? It's the selling price of your finished work which will get you to the top. And the selling price is yet to be found!

SELLING PRICE

To arrive at the selling price of an item, discover the present day replacement cost of the timber. (The piece you have had in the workshop for two years was at an old price and has been costing you rent as well.) Add a percentage to allow for scrap, add however much of your hourly rate you used up in making the item, then add a profit margin. Now you have a selling price. Can you still sell them at car boot sales, or do you need a pitch just inside Harrods' main entrance?

By this time I suspect many readers are saying 'Ah, yes, but I'm only doing it for a bit of pin money. I don't need all this costing, profit and selling price stuff.'

I'm not getting into the arguments about 'taking the bread out of the mouths of those who are relying on the craft for a living' or 'you're only cheapening timber in the eyes of the public'. But I would ask you to consider this. If you are making items just for friends and relations, where do you draw the line?

If you did a nice £5 fruit bowl for Aunt Alice, why can't you do the same for her cousin Daisy's friend? And what will you do when the pub

landlord asks for a dozen table lamps at the same price you just charged someone else in the public bar? He might even expect a bit off the price for a 'bulk' order. And would you want to do repetition work anyway? You could quite well discover that 'a couple of hours each night in the shed' just isn't enough!

CASH FLOW

Another constant problem is that of cash flow. At the time I started working for myself I knew what the phrase 'cash flow' meant, but I hadn't had personal experience of it.

It's a bit like a shortage of breath. You don't really understand it until you suffer from a lack of it. That's when the panic sets in. You need it. It's there all around you. You can see others taking it for granted. But can you get your shares? Can you heckers like!

If you haven't caught on yet, cash flow is getting enough money in to meet all the bills. If I can be forgiven for decimalising Charles Dickens' Mr Micawber: 'Annual income twenty pounds, annual expenditure nineteen ninetyfive, result happiness. Annual income twenty pounds,

annual expenditure twenty pounds nought five, result misery.' You may choose to read David Copperfield for the original version. Chapter 12, if I have interpreted my dictionary of quotations correctly.

How to avoid this desperate situation then? An overdraft facility at the bank is a useful asset. This means producing trading figures for the last x years (which is of no use whatever for the new trader) or preparing a forecast of expected sales achievements over the next period of however long you want the overdraft for. Of course, you might find a Bank Manager who likes the colour of your eyes or who would accept a weekly sack of shavings for the family pony. If you do, could you let me have the branch address? Please...?

Usually, accountants can help in preparing forecasts. Don't be put off by the thought of having an accountant; a good one can save you more than he charges in fees. How do you know 'a good accountant' when you see one? You don't! You ask people who are in a similar position to yourself.

In my case I asked other, but longer established, small business people. A neighbour of mine was a market trader. Another one had a smallholding. One told me of someone to avoid, as he had had problems with them, the other one recommended a small concern above a shop in the high street.

I've changed accountants twice in 20 years. The first time was when the high street man moved to larger premises in the next town. Yes, I could still have popped along to have a word with him from time to time, but I don't get paid whilst I'm sitting behind a steering wheel. The second change was when the one-man show I went to from the high street got too far down stream in the cash flow struggle and went back to working for someone else. It happens in all trades.

Another way of avoiding the cash flow problem is to have enough money behind you at the start of the venture to see you through at least the first six months or so. O.K., I know it's easier said than done, but consider this. Just how long could you survive with no money coming in at all? It might happen!

If after reading this article you still decide to have a go at self employment, good luck to you. If I hadn't tried it way back in '69, I would have regretted it for the rest of my life. Looking back on my activities over the intervening years, I suppose my greatest achievement was that of merely surviving. In the early days I didn't realise just how important my second income, as a swordfencing coach, would be. I didn't anticipate employing up to nine people. I didn't think I would ever achieve an income from writing. The thought of either teaching or demonstrating the craft never entered my head. All of these situations either have been, or are now very important to me. To sum up: *Be versatile.* ■

Loughborough '89



The extra income was useful

My first book promoting session in Kent





Ernie Conover is our contributing editor in America and head of Conover Woodcraft Specialties, Inc., a company well known to woodturners for its manufacture of lathes and turning equipment. He is 45, married and has four children, three labrador retrievers and a parrot. After graduating in 1968 from Norwich University, Northfield, Vermont, in business administration, Ernie served in the army for seven years retiring as a captain in the field artillery. He helped to found Conover Woodcraft in 1975 and was much involved in the creation of the Conover 16" Woodturning Lathe. Ernie writes and lectures extensively on woodturning and is a member of the board of directors, and treasurer, of the American Association of Woodturners, a non-profit organisation, which he helped to found. He is an editor and columnist for The American Woodworker and a regular contributor to Woodshop News.

Lathe Chucking

ERNIE CONOVER



Wood chucks, the author believes, take a lot of beating. And it's easy, he says, to make them yourself.

I am frequently asked my opinion on the wide variety of lathe chucks that are now available. This is always a difficult question for me to answer because, if the truth be known, I can't recommend that anyone buy a factory chuck — you can make better at home! As an added bonus your home made chuck will be more accurate, won't leave any marks and hold things that no metal

one can. Let's look at chucking. Any old turning book (from early in this century to back as far as 1750) devoted at least one chapter to chucks, so there is nothing new in anything I am going to relate here. Wood chucks work on the principle of locking tapers much like a Morse taper that holds things in

Hammering wood into chuck

our lathe head stock and tailstock.

A Morse taper is about 3° inclusive or 1.5° per side. At around this angle a taper becomes locking in that it stays put when snapped into the socket. If we go to a greater taper we have one that centres but does not lock, such as R-8 milling machine taper. If we go to less taper a full locking taper is achieved, one that is difficult to get apart once in place. Old machinery cogs and wheels were pinned with locking taper pins. Oddly enough we find the same rules work well in wood and we can construct wood chucks using the same geometry of 1.5° side.

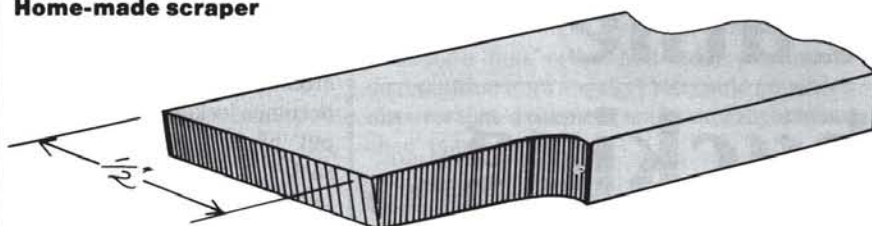
Cup chuck

The chuck I reach for most frequently is what I call a cup chuck. To make a cup chuck simply turn a 75mm 3" to 100mm 4" cylinder about 100mm 4" to 150mm 6" long between centres. Face one end and attach a faceplate. Since the plank grain is running between the centres of the lathe, the faceplate will be screwed to end grain. For this reason it is best to use No. 12 or bigger sheet metal screws. I usually use 25mm 1" or 38mm 1½" screws. Mount the faceplate to the spindle and using the tailstock drill bore a 12mm ½" to 15mm ⅝" hole through the wood cylinder to allow for a knockout bar to eject work from the chuck. Face the cylinder with a large scraper and true up the outside with a gouge. Now it is simply a matter of scraping a pocket in the face of the chuck that is the diameter of what you plan to hold and has a 1.5° taper in the side.

The wood selected for making a chuck is important! The old treatises all recommend boxwood which is both hard to find and pricey today. If you find any, make boxes out of it. Dogwood is a close replacement and available in the South. Actually though, I have had good luck with maple, white ash and even yellow poplar. Cherry, walnut and oak have worked out poorly.

PROJECT

Home-made scraper



(Alternatives to boxwood are beech, European birch, holly or any of the fruitwoods, e.g. pear or apple. Imported North American maple is available in the UK.)

For making and fitting (adjusting the size to the piece to be held) I use a home made scraper like the one shown in drawing 1. I used to use an old file but try to find a piece of high speed steel these days. The important thing is to have the face and left side at right angles to each other.

Armrests

I also use a very little known tool called an armrest, which is no more than a stout rectangular section of steel with a right angle bend at the end. I forged my own case, hardening it for wear resistance and tapering the handle end to a tang. An armrest is fitted with a robust handle of the 457mm 18" to 610mm 2' variety.

type of turning but easy (and fun) once you get the hang of it. The big advantage is that a chuck can be fitted to the work piece very quickly and trial fits are much easier because the tool rest never has to be moved.

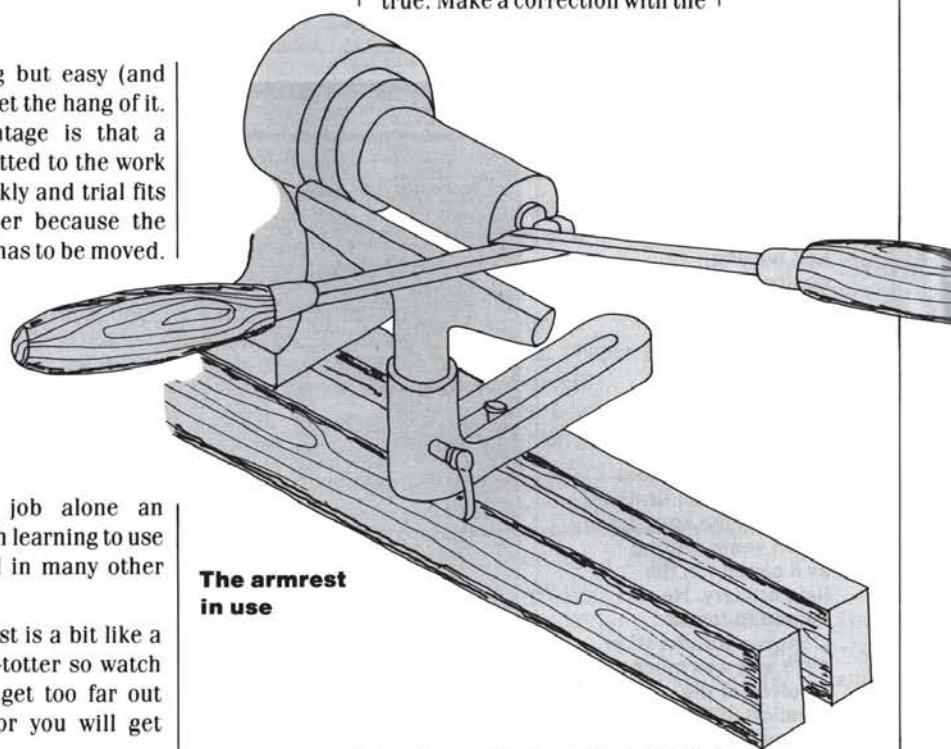
For this one job alone an armrest is worth learning to use but it is useful in many other pieces as well.

Using an armrest is a bit like a game of teeter-totter so watch that you don't get too far out over the rest or you will get bumped!

The mouth of the chuck should be sized line on line with the work to be held. The opening tapers back from here at the

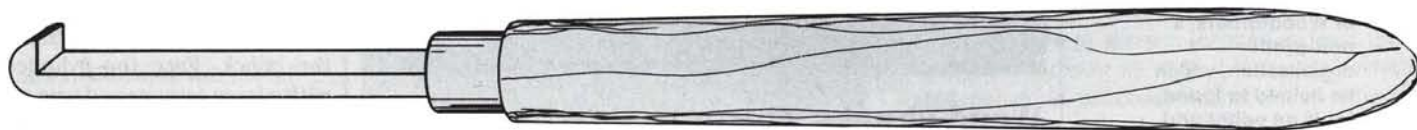
A special tool is needed to force the work into the chuck and bring it square. Fortunately most households have one — the common hammer. Simply place the work in the mouth of the chuck and smack it a light blow.

Now turn the lathe over by hand and note the direction out of true. Make a correction with the



The armrest in use

trusty hammer and inspect again. With a little practice you will be able to have things running dead true in a minute or less.



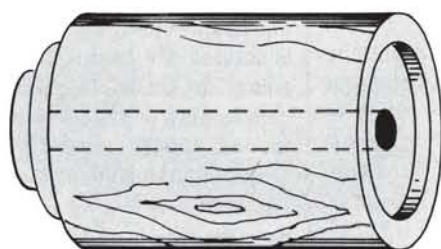
In use, the handle of the armrest is placed under the left arm (sort of in the armpit) and the armrest itself is placed across the tool rest. The toolrest is set parallel to the lathe bed, an inch or so from the chuck, so that it stays out of the way during the entire fitting operation.

The scraper is then placed in the right angle bend of the armrest and applied to the work, which in this case is the chuck. It is sort of a two-handed

above mentioned 1.5° and should only be 3mm 1/8" to 5mm 3/16" deep. Touching a bit of chalk to the finished chuck makes it hold the work much better!

An armrest

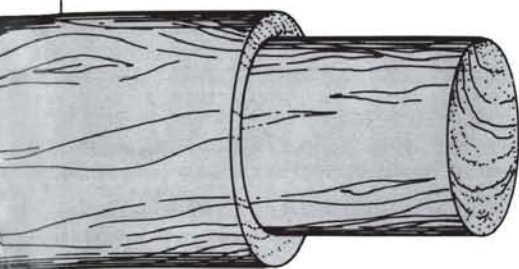
A Jam chuck



If it is something like a nearly finished box that you are chucking it may be good to place a block of wood between the work and the hammer.

Jam chucking is particularly useful for holding small objects such as boxes, balls and finials. I practice what I call my *first law of jam chucking*, which should be strictly adhered to, especially during the learning stage.

Ernie's first law of jam chucking is, 'one should never jam chuck anything one is not



prepared to be hit in the head with'.

Saying all of this, however, I have jam chucked things as big as a boccie ball (90mm 3½"-110mm 4¾" in diameter) and regularly chuck bowls this way.



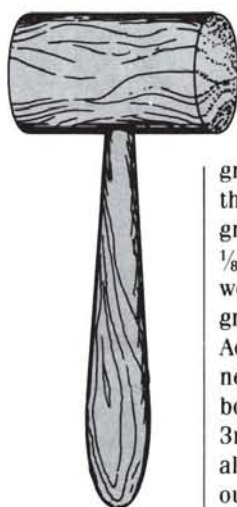
With bowls, though, I employ the tailstock making things quite safe. More about this in a minute.

A jam chuck must be retrued every time it is used because the wood moves with every change in humidity. At certain times of the year even a few hours are enough to make things egg shaped. Truing only takes a few seconds and very little has to be removed. If the chuck starts to get too big it is just a matter of cutting back the face and scraping the pocket deeper. I never throw a chuck away until there is danger of hitting the faceplate screws.

Bowl and faceplate

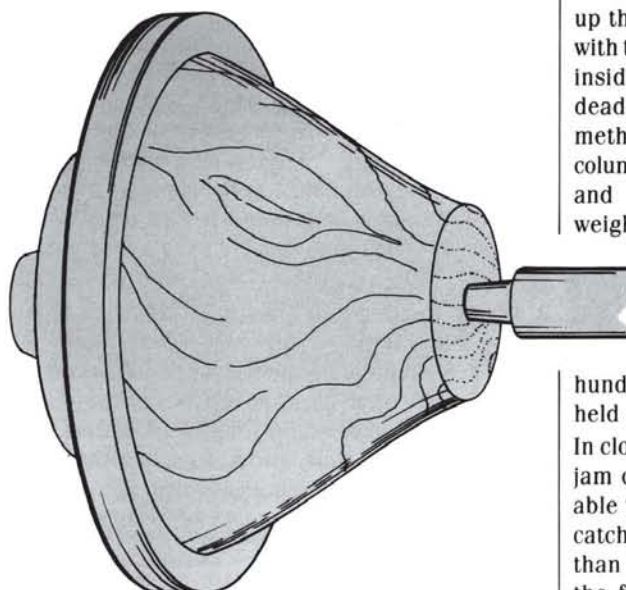
A bowl can be jam chucked for turning the base. It only works with a traditional bowl and not rough tops. I mount a disc of medium density fibreboard the

Jam chucking



groove in the face of the disc that the bowl will fit into. The groove should be about 3mm ⅛" to 6mm ¼" deep. If done well the bowl will stay in the groove by friction and vacuum. Actually though the groove need only contain the rim of the bowl and could be as much as 3mm ⅛" larger if the tailstock is also employed. Extend the ram out two to three inches and put the centre against the bottom of the bowl. Now place the tool rest at right angles to the bed and just under the tailstock ram. A spindle gouge may now be employed to finish the bottom to a concave shape leaving an elegant base. This is quite safe if the speed is kept

swing of my lathe on a faceplate. I then measure the diameter of the bowl with dividers and transfer the measurement to the disc. Now using a cutoff tool and the trusty armrest I cut a



low. A small nubbin (nib) is left under the centre which is easily removed with a chisel.

Tapered mandrel chucks

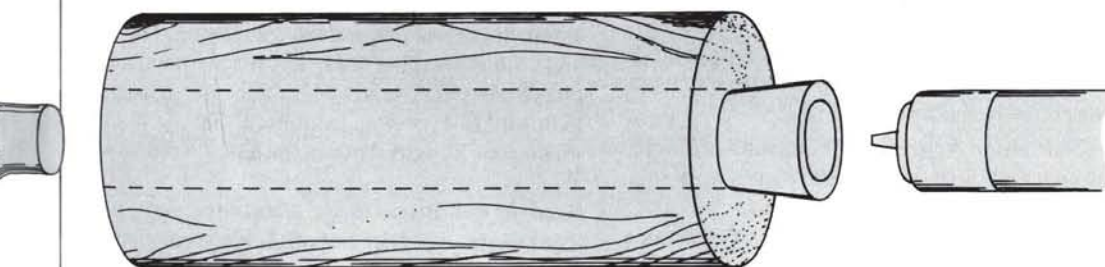
Finally the principle of jam chucking may be turned inside out with tapered mandrels. This is a great way to make an outside diameter concentric with an inside diameter. It is particularly useful for such things as pepper mills, bracelets and lamps. Simply mount a piece of wood on a faceplate (again with the plank grain running between the centres) and turn a gentle taper 1.5° which fits the inside diameter of what you want to hold. Force the work over the taper and turn away.

For longer objects with a hole all the way through (such as a pepper mill) a taper plug is also turned. Tap the plug into one end and slip the other over the mandrel on the faceplate. Pick up the centre mark in the plug with the tailstock centre and the inside diameter is now running dead true. I have used this method to turn coopered columns 305mm 12" in diameter and 2440mm 8' long. They weighed about 45 kgs one

Spindle turning on tapered mandrels

hundred pounds each and were held securely.

In closing let me say that to use jam chucks you do need to be able to turn well enough that a catch is the exception rather than the rule. They are vexing the first few times, but if you persevere it gets easier and easier. It's just a matter of telling yourself you can do it, and not getting discouraged. The benefits of teaching yourself jam chucking will be repaid many times over. Finally keep speeds sensible, don't replace skill and sharp tools with speed. Everything I have outlined above can be done at speeds between 600 and 1700 rpm. I wish you good (and cheap) chucking. ■



Jam chucking a bowl

A TURNING POINT?

BERT MARSH

Bert Marsh reviews the AWGB's Hay on Wye Exhibition and looks to the future.

Hay on Wye is a small friendly town on the English/Welsh border. Known to many as the second-hand book centre of the world, for three weeks this summer it became a Mecca also for woodturners all over Britain and beyond.

The occasion was the first public exhibition of the work of members of The Association of Woodturners of Great Britain. David Woodward and his wife Cathy had kindly offered the Association the use of their gallery in a newly-built craft complex. There, shortly before the opening, at the invitation of the committee, I had helped Ray Key and Don White select the pieces to be shown — a daunting task but one I was proud to accept.

It was an exciting time, just like Christmas all over again. David, Cathy and their young assistant Sarah carefully unwrapped the mountain of parcels which had been arriving for the last few weeks. Eighty five members whose work is known to the Association were invited to submit up to three pieces. Sixty three responded and one hundred and twenty seven pieces were judged for showing.

The result was an impressive exhibition of turning, ranging from spinning wheels to chairs, vases to lace bobbins and from bracelets to boxes and bowls of all shapes and sizes. I wish it were possible to show all the pieces here and to comment on them individually. Sadly space has allowed me to feature only a few.

The exhibition went well. Thousands of people visited it and over a third of the pieces were sold. But though we can take heart from its success, I hope we shall look back on Hay on Wye as a turning point, a time when we began in earnest to show the world what British woodturners can do. For I believe there is much we can contribute provided each of us concentrates on developing

his skills in his own individual way. And while we should do all we can to persuade professionals to exhibit *their* best pieces — spindle turners included for their work is of equal interest — we should also be ready to spot and encourage new talent. With over a thousand members to our name, there must be a lot of stars out there waiting to be discovered.



Where it all happened — Dave Woodward's gallery/workshop in Hay on Wye

A final work to David and Cathy. Thank you both for hosting the exhibition and manning it in such a welcoming and tireless way. And before I forget, a big thank you also to Liz Key for displaying the pieces so effectively and to Ray for trying so manfully to type the exhibitors' list — a task which took him until two-o'clock in the morning!

British woodturners — amateurs and professionals — please note. If you are not already a member of The Association of Woodturners of Great Britain, write for details to the Secretary, Hugh O'Neill, 5 Kent Gardens, Eastcote, Ruislip, Middlesex HA4 8RX. ■



Jules Tattersal Vase in xanthorrhoea. Hollow neck hollowed out to make extremely light vessel. Outside decorated in Jule's inimitable way

Terry Holland Hollow vessel. Spalted sycamore



Paul Clare Dark split vase in burr elm



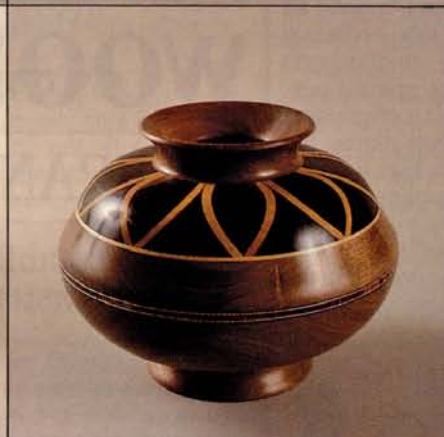
Ray Key Pagoda box in four sections. Burr boxwood



Ian Harris Archaeological vessel. Hollow form in xanthorrhoea. Delicate, half natural edged rim



Tedd Renn Inlaid bowl. English walnut, boxwood and macassar ebony



Jan Sanders 'Springtime'. Delicately turned flowers and mushrooms on a piece of natural birch



Arthur Cummings Two unusual shell boxes. Ziricote and Bubinga

John Ambrose Nest of five bowls, all turned from a single 11" block of burr oak. Each bowl is left with bark top edge



Don White Burr elm bowl. The wood's natural features have been used to produce an exciting piece

Stephen Cooper Miniature spinning wheel. African padauk with boxwood finials. Quarter-size



Tobias Kaye Table lamp. Made from four pieces of ash, joined together, turned, reassembled and turned again



FEATURE

Those who turn wood fall naturally into two great classes: the true amateur wood turner and real wood turner. After many years' experience as a true amateur, I have now, through almost no fault of my own, suddenly learnt so much about wood turning that I may now gain promotion to the status of a real wood turner. It therefore seems a suitable point in my career to record some advice on how to be a true amateur, this being a matter sadly neglected by the books and magazines. It is also right that I should give my views now because one of the main occupations of the true amateur is talking about wood turning, while the real turners spend their time actually turning wood. I must therefore talk now before it is too late. I will deal with each aspect of wood turning under the headings which appear in all the books.

THE LATHE

It is possible to do without one of these but you have to be able to talk very fast and very convincingly to get away with it. So buy a lathe. It does not matter what sort. Unless you get a very expensive one you will always refer to your lathe in disparaging tones but remark that you seem to get good results with it. All lathes have different designs, strengths and faults and you should be able to discuss these endlessly simply by looking at the brochures; there is no need actually to try using any of them — just note one feature of each which you can sneer at. It may seem to be rather one up to make your own lathe but the skill needed to do this disqualifies you from true amateur status. It is all right to be about to make one or, even, in the course of making one, so long as you never actually complete it. It is easiest — and ease rather than results is what counts with the true amateur — to buy a cheap lathe. The lathe should be installed in a corner of the garage because this is what all the books and magazines tell you to do. This may be inconvenient and you may have somewhere better to

put it, but into a corner of the garage it must go.

TOOLS

Buy lots of these. It will be obvious that there is something wrong with your wood turning and it is bound to be caused by your tools. A bad workman always blames his tools and usually is quite right to do so; bad workmen have bad tools. Therefore, buy some more. The odder the shape of each tool the better. Your grinding and sharpening operations will probably go far to producing a wide selection of oddly shaped tools. All this is to the good as you can then talk endlessly about grinding angles and special tools for special purposes. The choice of grinding machine does not matter but you should note that the true amateur may engage in such arcane activities as reversing its directions of rotation, though this should not be done with the lathe itself except in extreme cases.



CHUCKS

Buy lots of these too. They are heavy, fiddly, expensive and impressive in other ways as well. And there must be some way you can convince yourself that one or other of them will resolve the problems you are finding with your turning. Home-made wooden chucks are also recommended. Fill the corner of your garage with them. Do not bother to label them as you will never need them again even if you could remember what the hell they were for.

WOOD

Pretty essential really but since the true amateur never gets very good results with it and is

THE LAST TESTAMENT OF A TRUE AMATEUR WOODTURNER

FRANK SHARMAN

(A long-established non-member of The Guild of Master Craftsmen)

largely concerned with doing anything with a lathe other than turn wood with it, it is always worth while trying to turn bits of plastic, boiled bones, old candles or anything else that looks handy. Otherwise, since the true amateur can never think of what else to make once his house is full of wooden dishes and candlesticks, the next thing to do is to set about turning as many different sorts of wood as possible. This has

they have never heard of. And it enables you to talk endlessly about the 'turning qualities' of different woods. You won't, of course, actually know anything about their turning qualities as you will make a similar mess of every sort of wood you apply yourself to. But that does not matter. The best thing to do is to think of a wood (such as burr wood from a semi-fossilised bog oak) which no one can turn and, having introduced it into the conversation, declare to anyone who will listen that 'Funnily enough, I've never had any trouble with it'. You haven't — you've never even seen any, let alone tried turning it. If you want to turn green wood, stain it.

DESIGN

Actually designing anything does not matter much as the true amateur is quite unable to predict in advance what shape might appear when he attacks the wood. Indeed, he should never be tempted to declare in advance what sort of thing he is going to make, let alone what shape the damn thing will be. If pressed, it is best, if doing spindle work, to declare that it will be a candlestick or, if doing face plate work, that it will be a dish. Almost anything turned



several advantages. It gives you something to do. It provides a good excuse for pestering wood suppliers for very small quantities of obscure woods

between centres might count as a candlestick and you can drill a hole for a candle at the less flat end at any time. Anything left on the face plate by the time the true amateur has repeatedly attacked it is likely to be more like a dish than anything else. But the true amateur should always be willing to discuss design theory at the drop of a hat. This is easy to do as there are no design rules left to know about. Vague phrases such as 'the inter-relationships between curving surfaces' are always useful and you should be prepared with a few totally meaningless observations such as 'an exploration of the inter-reaction between forms and voids'. The burning in of black lines with a bit of wire should be liberally done, especially on the rougher bits. Whilst doing it, mutter about 'integrating the totality of the design concept elements'. If you ever succeed in making a bowl, leave it well alone. Making the top wavy and then sticking on bits of bark is not worth the trouble. Cutting it to bits, and the sticking the bits back together again in a funny shape, is best left to those who can make another bowl if the process goes wrong.



got there because of the speed and vigour of your turning.

SANDPAPER

This is usually sold in different grades of grit. But the true amateur classifies it by degrees of desperation. It is very useful to have on display a large variety of different types of grit with as many combinations of backing material as possible. You can then discuss endlessly the respective merits of different types. It does not matter what you say about them as no one actually knows the difference between them. The coarser grits should not be on display. A great advantage of wood turning is that, if you have any sense at all, you only show people the finished product. They have no way of telling how you got there; for all they can tell, you might have had a whole log when you set out to make an enormous bowl and you just scraped and sanded away your mistakes until you produced this little candle holder. The system of running the lathe flat out and sanding with a bit of sandpaper stuck onto the end of an electric drill is only to be used if anyone is watching.

POLISH

The quicker the polish is to use, the better. Anything which can be thrown on to the work while the lathe is spinning like mad is much to be preferred to something which takes hours for the first coat to dry. Trying to select a finish to suit the use of the item you have made is a waste of time — no item you have made is going to be used, as it is a work of art and a joy for

ever. The only time it is worth spending time on a finish is when the work is so rough it seems to qualify for the old saying 'You can't polish a door mat'. These days you can — you can embed it in resin. In any event, if you cannot get rid of rough spots, all you have to do is make them considerably worse and then announce that you are exploring the aesthetic possibilities of textural contrasts. This sort of pronounced sound is impressive but means nothing and therefore cannot be refuted. Note particularly the use of the word 'exploring'. It is the vogue word in artistic criticism. It is, of course, a gross breach of etiquette ever to claim to have discovered anything as a result of any artistic 'exploration'. The merits of various waxes, such as carnauba and bee, and oils, such as teak and tung, can be discussed endlessly and this should, of course, be done with an air of final certainty. If anyone is listening, you might try suggesting a mixture of floor polish, turps and squashed bananas. Come to that, you might as well try heaving some such concoction at the wood on your lathe for all the good it will do you.

BOOKS

You should buy lots of these. They all say essentially the same thing, so you should not bother reading them. If you did, there would be a very slight risk of learning something and then you would no longer be a true amateur. You should confine yourself to looking at the pictures; since these are always incomprehensible, they will do no harm at all to your status. Do not put the books in the garage by the lathe but put them on a



prominent shelf in the house near some well-turned pieces which you bought at a craft fair.

EXHIBITIONS

It is useful to go to these. They have two main merits. You will be able to look at lots of lathes, tools, polishes, sandpaper, etc., and this will enable you to talk about such things for even longer and even more impressively. The other advantage is that you can talk to the professionals who are demonstrating. The object of that is not to learn anything but to try to impress the demonstrator, and the crowd of bystanders, with your knowledge and expertise. To do this well needs practice and is about the only thing the true amateur will ever practice. It is very crude simply to announce to the demonstrator that he has ground his tools wrongly. It is better to lean over and pick one up (which will put him out of sorts to start with) and then ask, 'Do you actually find it an advantage to grind it like this?' The demonstrator's natural response would be to poke you in the eye but, as he cannot do that, he will be at a temporary loss for words. Stroll away slowly.

COURSES

Some of these are ideal. The instructor talks endlessly — which may sound frustrating since you will want to talk endlessly too. But there is no real reason why you should not: talkative instructors never notice what the students are doing. But listening to the instructor might give you much valuable verbal material for future use on someone else. This sort of instructor does not expect you actually to turn any wood; he knows you will be no good at it anyway. Other courses are very risky. If you go on them, you learn something. It is because I went on Cliff Willett's course, and could not avoid learning sufficient to upgrade me, that I am having to abandon my true amateur status and start doing some real turning. If anyone wants some very odd tools, some siliconised parchment backed garnet glass paper in a 40 grit or some partly turned salami would let me know. ■



WOOD SHAVINGS

The way the true amateur turns, he is not often bothered by these. But he will have dust and chips in plenty. A large heap of these impresses visitors and keeps your feet warm in winter. Occasionally throw some of them over towards the opposite corner of the garage. This will make it look as if they



Vic Wood has been a member of the woodworking elite of Australia for more than a decade. He is as well known as a teacher and lecturer as for the objects he creates. In addition to the imposing pieces which sell mainly through exhibitions, he continues to make a range of smaller 'one-off' boxes and bowls which are marketed in craft galleries throughout the world.

Vic has been experimenting with the effects of circles imposed on squares and rectangles since 1966, though not always using timber. He trained originally as an industrial arts teacher majoring in gold and silversmithing. Most of his early work adorned walls, and it was through the subtle, sensual, turned and carved undulation of the wall plaques that Vic developed his reputation while a lecturer at Melbourne State College. Vic has travelled to the UK, USA and New Zealand demonstrating and lecturing and is represented in numerous major collections throughout the world. We are glad to have him as our adviser in Australia.

Making a Square Edged Lidded Container

VIC WOOD

One of Australia's foremost woodturners describes how to make one of the pieces with which his name has become synonymous.

I have been making variations of the container I am about to describe for a number of years. Its design, especially the edges, was influenced by large laminated wall murals. Basically, it is simply a savoury platter with a space for dip and with the edges cut away. But there is much you can learn from it in the making.

The method itself evolved from an attempt to save the exotic material I use in the actual lidded container. Accuracy in setting out the container and gluing of the waste block will ensure satisfactory results. Each step you perform will give you a chance to rethink your ideas and open up the possibility of creating new shapes.

Select any dry material to make a square edged lidded container but try to use a wood that has interesting colour features or grain making. In this case, SHE oak (hard wood) is glued between radiata pine (soft wood).

(She oak is available from Craft Supplies Ltd, The Mill, Millers Dale, Nr Buxton, Derbyshire SK17. Tel: (0298) 871636.

John Sainsbury has kindly supplied this description of the timber:

She oak is of the family Casuarinaceae and the children are scattered over parts of Australasia and some of the islands of the Pacific.

It is not a true oak although it does bear some resemblance to the evergreen oak (Holm oak) which we see in the UK.

The She used by Vic Wood is 'fraseri' which grows mainly in Western Australia. It is a light yellowy brown in colour with a leaning toward red. The medullary ray gives it a mottled look and its grain is straight with an open texture. It works well and takes a very good finish.

The name She oak is derived from the sound of the wind as it passes through the branches of the trees.

It should not be confused with Rose She oak which grows in New South Wales since the heartwood of this tree is deep red with light brown sapwood.)

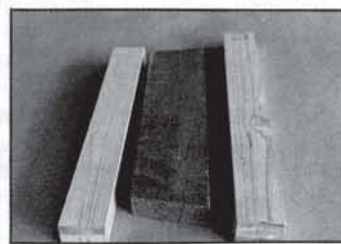


FIG. 1. Selected timber (She Oak) 560mm x 120mm x 38mm 22" x 4 3/4" x 1 1/2" dressed all round, and radiata pine or any softwood suitable for waste) to be removed after completion of turning 610mm x 70mm x 38mm 24" x 2 3/4" x 1 1/2". All that is needed is one square edge to be glued to edge of She oak. The softwood is removed after completion of turning.

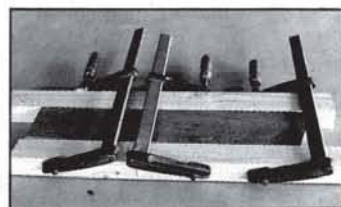


FIG. 2. Glued with poly vinyl acetate (white glue) and clamped till dry.

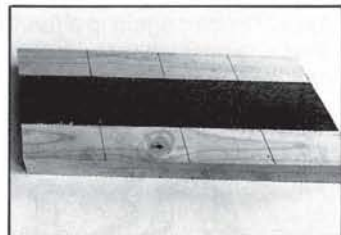


FIG. 3 Mark out container section, one for lid and one for base and label in pairs. Cut along line with band saw to minimise waste. The angle selected can be adjusted to suit individual requirements. It depends on the shape of the container.

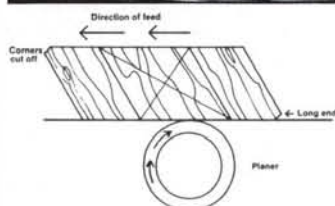


FIG. 4 Plane band sawn edge on surface planer, wood angled

down and towards the operator. Cut corner of pine to prevent splitting. CARE SHOULD BE TAKEN WHEN PLANING A SHORT SECTION OF WOOD ON A SURFACE PLANNER. If in doubt use a hand plane.

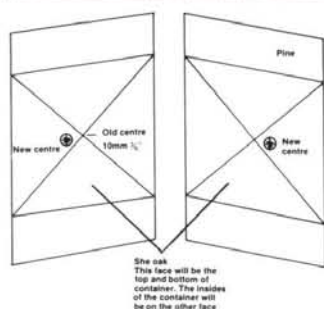
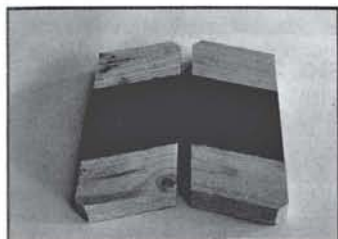


FIG. 5 The selected pair, lid and bottom, should be arranged to create a sandwich effect. It is necessary to use this method, otherwise the lid of the container will not match with the base. Mark out on the faces of container to find centre by drawing a line from corner to corner. The important part now is to measure 10mm $\frac{3}{8}$ " out from the centre to create a new centre. All measurements NOW are taken from this new centre. This is done to off centre the lid on the base by 20mm $\frac{3}{4}$ ".

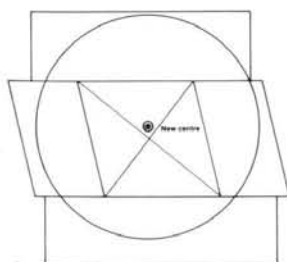


FIG. 6 Glue and clamp pine 200mm x 70mm x 38mm 8" x 2 $\frac{3}{4}$ " x 1 $\frac{1}{2}$ " onto planed edges and mark out circle from the new centre, sawn off.

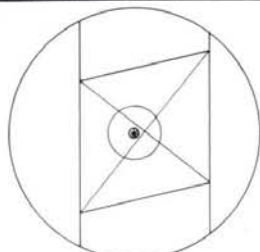
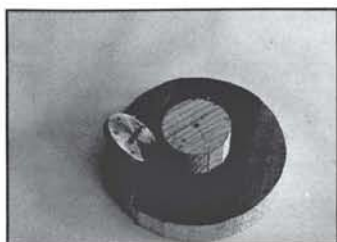


FIG. 7 The pine waste block (carrier for jam fit chuck) 95mm x 45mm 3 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " is glued to the anticipated top and bottom of the container. The waste block is centred from the new centre. The use of a screw chuck helps centre the container.

To make sure block is true to the new centre, scribe a line about 3mm $\frac{1}{8}$ " bigger than waste block and clamp into position.



FIG. 8 It is important to use screws (self tapping type) on the face plate even though you have a centre screw. With additional support of the screws tear-out of the grain will be reduced, if not eliminated altogether. The use of a reversible drill makes it easy, and pre-holes need not be drilled.



FIG. 9 True up surface of face (inside of container) and edge with supa gouge, and scrape other surface of wood and waste block (carrier) with a Bar tool... This is an engineer's tool bit 100mm x 8mm x 8mm 4" x 5 $\frac{1}{16}$ " x 5 $\frac{1}{16}$ " drilled into a solid hexagonal bar 610mm x 25mm

x 25mm 2' x 1" x 1" and held by two grub screws. Using a scraper in this area is a lot safer than using a gouge.



FIG. 10 Drill the depth of the bowl section of the container 32mm 1 $\frac{1}{4}$ ". Mark out diameter of bowl 70mm 2 $\frac{3}{4}$ ".

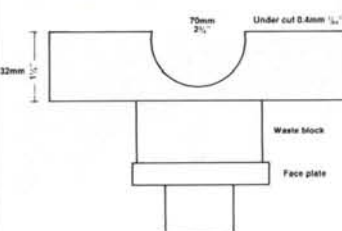


FIG. 11 A 10mm $\frac{3}{8}$ " bowl gouge is used to remove waste to depth of drill hole. Create a nice even curve slightly undercut on the top edge. This makes it easier to fit the jam fit chuck.

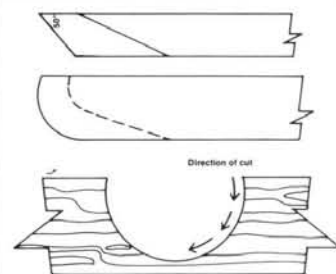
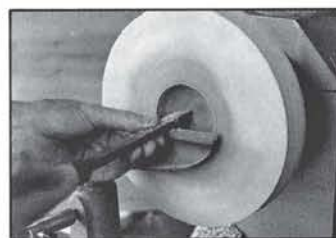


FIG. 12 Take a 12mm x 8mm 1 $\frac{1}{2}$ " x 5 $\frac{1}{16}$ " round nose scraper and refine the line of the bowl area by working from edge of bowl to the base. This way you have supported fibre when scraping downhill obtaining a clean finish. The scraper should

be thick enough not to vibrate and the tip running on centre height.

Do not scrape below centre and make sure the scraper is sharp. Always grind on a fine wheel and repeat often if you want a clean non-torn finish. Other important factors in scraping are: the wood should be fixed firmly to the face plate, the lathe should not vibrate and should be of solid construction and the tool rest should be firm. If on 20mm $\frac{3}{4}$ " or less tool post, move tool rest so that post of tool rest is directly under the area being scraped.

If you cannot move into position, use a wedge at the end of tool rest to prevent movement. Lathe speed should be increased to 2000 rpm.



FIG. 13 Take 10mm $\frac{3}{8}$ " bowl gouge and shape the outer face edge of the container, again cutting downhill into the curves.

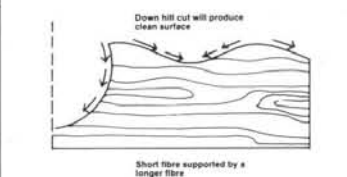


FIG. 14 Now use 20mm x 8mm 3 $\frac{3}{4}$ " x 5 $\frac{1}{16}$ " round nose scraper to refine the line and scrape downhill.

To check your finished shape look at the line where the radiata pine joins the She oak. Here you can determine the profiles of the finished container. It is not very easy to imagine the shape through the surface of the container. After making a few containers and cutting off the waste, look at the edge of the finished container. You can then improve design for future containers.

PROJECT



FIG. 15 Using a bar tool made from a 8mm $\frac{5}{16}$ " tool steel bit fitting into a hexagonal bar with grub screws, remove waste from back of container (that is the base of the container). The thickness will be determined by fingers and range from 3mm x 5mm $\frac{1}{8}$ " to $\frac{3}{16}$ ".



FIG. 16 Figure eight calipers are necessary to measure the thickness from the inside of the bowl to the outside of the bowl. The area is too far away to be measured with your fingers.



FIG. 17 Sand top surface and bowl of container with 150, 180, 220, 240, 280, 320, 360, 400, 500 grit. I use linen-backed J weight flexible resin bond material up to 240 grit followed by A weight open coat free cut paper backed to 400 and wet and dry to 500.

Always sand at a slow speed about 600-700 rpm and use a piece of soft leather between your fingers and the paper. Do not apply a lot of pressure on the surface of the work, let the sandpaper cut the surface not burnish it. If you sand at a higher speed, heat is generated, the paper does not last as long, the wood may develop heat checks and the paper does not cut as effectively. When no dust comes off, get a new piece of paper. A variable speed lathe is so valuable in these circumstances. Wear a dust mask or have a very good extraction

system. Sanding dust can be very harmful.

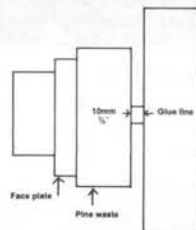


FIG. 18 Cut off container from waste block with 3mm x 12mm $\frac{1}{8}$ " x $\frac{1}{2}$ " parting tool on glue line leaving 10mm $\frac{3}{8}$ " spigot. Stop lathe and break off. The glue will have softened enough by the heat generated.



FIG. 19 Alternative method to remove container from waste block is the use of a tenon saw or combine both parting tool then saw. THE LATHE MUST NOT BE GOING WHEN USING THE SAW.

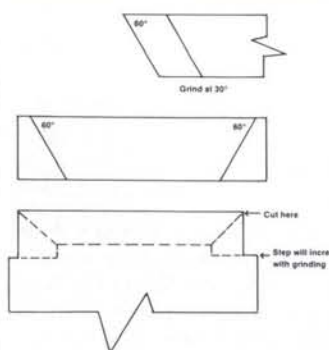


FIG. 20 Flatten waste block with square end tool 45mm x

10mm $1\frac{3}{4}$ " x $\frac{3}{8}$ ". Cut with side edge of tool, not end so as to achieve a clean face. It is now ready to be used again even though it will be used as a carrier.



FIG. 21 Testing for flatness with edge of tool.



FIG. 22 Set dividers to diameter of bowl and expand by $\frac{1}{8}$ th of a turn.

FIG. 22A Mark waste block with dividers. Be sure to have left leg of dividers on tool rest while lathe is spinning.



FIG. 23 Cut step 5mm $\frac{3}{16}$ " deep to divider line and check for fit. If slightly loose chalk can be applied to step of carrier. You can even wet the step with saliva. Another method is to use sorbent tissues which are very soft and follow the contour of the step. If you have to fold the tissue more than four times cut a new step.

The step is cut with square end tool 20mm x 8mm $\frac{3}{4}$ " x $\frac{5}{16}$ ". Always use tool when top is at centre height.



FIG. 24 Use of a wooden dowel with end covered with leather to protect base of container. This stays in position until you are ready to refine bottom of base.



FIG. 25 With 12mm $\frac{1}{2}$ " scraper refine the shape of the container on the outer edge while dowel keeps container on carrier. Again scrape downhill spin at 2000 rpm. Do not go any faster as the pine can break off by the force of spinning too fast.



FIG. 26 With the container fitted on the step and lathe stopped, check wall thickness with figure eight calipers.



FIG. 27 The dividers are used to measure the diameter of the bowl in preparation for making the lid of the container. The waste pine can be removed from the base of the container before you proceed. If you wish to see the profile of the edges. Don't forget to add $\frac{1}{8}$ th of a turn on dividers.



FIG. 28 Mark diameter on inside of container lid.

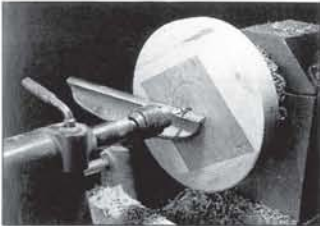


FIG. 29 Drill hole to selected depth 30mm $1\frac{1}{8}$ ". Spin at 1200 rpm.



FIG. 30 Cut out shape of lid with 10mm $\frac{3}{8}$ " bowl gouge spinning at 1200 rpm.



FIG. 31 Use half round nose scraper to refine line at 2000 rpm. Cut step at this time with step tool so as to get a better cut. (See illustration 34 for grinding of step tool profile.)



FIG. 32 Check fitting of base to lid. This should not be a tight fit, as you do not want to lift up the base when you pick up the lid. Before removing the lid from the waste block, shape the lid as we did before on the base section with the bar tool.



FIG. 33 Excess material in the carrier should be cut with a 10mm $\frac{3}{8}$ " bowl gouge inside the divider line. When marking the carrier, this time remember to measure the step of the lid and close dividers by $\frac{1}{8}$ th of a turn.



The finished container.
Photo: Terrance Bogue

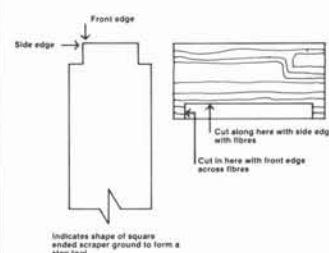


FIG. 34 With the step tool, remove the excess creating a right angle cut 5mm $\frac{3}{16}$ ".

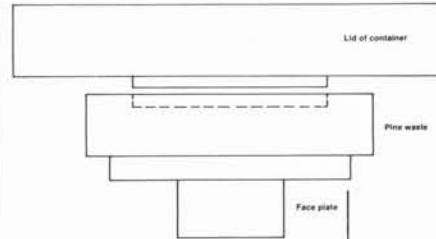


FIG. 35 Fit lid into recess. If loose apply chalk to the step of the carrier. You can even wet the step with saliva. Another method is to use sorbent tissues which are very soft and follow the contour of the step. If you have to fold the tissue more than four times, cut a new step.

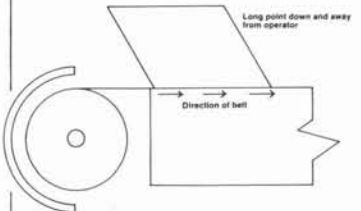


FIG. 36 Remove pine and sawn edge on belt sander so that edge can be kept flat and straight. Always have the long point away from you.



FIG. 37 Use cork block with fine grit paper 280 to finally sand edges.



FIG. 38 Use sandpaper on edges and corners to remove excessive sharpness.



FIG. 39 Scrape the top surface and refine the line. Always scrape downhill with the dowel support in revolving centre. Do not remove dowel until you are ready to finalise shape of centre.



FIG. 40 The band saw is the best method of removing the pine from the She oak. Be sure the work is supported on the edge, and use a fine tooth blade to prevent chipping.

Apply a brush coat of polyurethane satin finish to both surfaces of the She oak. Allow approximately 3-5 minutes to penetrate the surface. Using a soft cloth wipe the surface dry. Next day, sand or use 0000 steel wool to remove any imperfections. Apply a second coat of polyurethane; this time you have about one minute before it becomes tacky. Remove with soft cloth. If it does become tacky, recoat and immediately wipe off. Always use plastic gloves to prevent urethane coming in contact with your skin. (I use disposable ones.) Finally, use a carnauba based wax with a soft cloth. ■



Ted Hunter grew up in the small towns of northern Ontario, Canada, where his father's skills as an industrial mechanic and his mother's patience in raising three children helped establish Ted's approach to his artistic abilities. In 1977, he graduated from the Ontario College of Art. Two years later, he became one of the founding members of a woodworking co-operative in Toronto called the Wood Studio. In 1985 he began to show his work professionally. Over the last two years, he has shown at the International Turned Object Show in Philadelphia; Turner's Challenge III in St Louis; Thunder and Lightning in London, Ontario; and a retrospective in Cambridge, Ontario, featuring 16 sculptures completed over the last 10 years. Recently, he was commissioned to produce five pieces for David Cronenberg's film *Dead Ringers*. He currently teaches at the Ontario College of Art in Toronto. Ted's latest sculpture called 'Push' is shown below. The laminated turnings are each distinctly different in pattern and involved three months of work to produce. We hope that he will be telling us more about the sculpture in a future issue.



'ONCE UPON A SANDBANK'

TED HUNTER

'No-one seeing us that day could have guessed that I was going to do a wood turning.'



Our abilities as a tool building race, and one that needs to produce with its hands, has evolved over millions of years.

Today we run down to our local tool supplier and have a choice of hundreds of makes and models. No matter what material we use, there is usually a tool or machine we can buy that will help with the process. Most of the tools have specific uses: one is used to cut wood, another to drill holes. Each requires some form of input from the operator, whether it be guiding the device as it drills a hole or programming a computer to control the operation.

It is not often that we look elsewhere than our input for control of a machine. In building the sculpture *Once Upon A Sandbank*, I did not want to take all the credit for the piece, so I designed a machine that allowed for some other forms of

input. I wanted Nature — specifically, the texture of sand from a wind-blown beach — to help control the machine.

The sculptures I produce almost always involve making a piece of machinery, or exploiting a process. I usually start with the idea and shape of the sculpture. Then begins the process of finding a way to build it. I try to draw on my knowledge of existing machinery. Adapting this information to my needs, the design of a new machine begins to form.

I usually design a machine with three rules in mind: it has to involve the physical person, it should not be too precise in its nature and it must allow for the material being cut to play a role in the final shape or texture of the piece. This present machine was built over a year and a half period. Although it was used in producing other works, it was built primarily for the sculpture *Once Upon A Sandbank*.

It was constructed in two stages. The first stage included a 1525mm 60" turntable, an articulated arm mounted on teak runners and a holding device for a plywood template. The arm assembly was the most time-consuming component to build. Woods used included curly maple, cherry, mahogany and ash. The arm moved back and forth 760mm 30" on the teak runners. This movement was controlled by a handle connected to a threaded rod. Each turn of the handle moved the arm assembly 1.6mm $\frac{1}{16}$ th of an inch.



Once Upon A Sandbank.
1625mm 64" x 1120mm 44" x
760mm 30". Laminated
cherrywood.
Photo: Jeromy Jones

The cutting tool was a router mounted above the turntable and connected to one end of the arm. Its horizontal position was controlled by a plywood template mounted at the other end, above the arm. A small bearing, mounted on the arm below the template, was used as a pointer. As the arm moved, the pointer followed the template, causing the router to mimic the same shape at the arm's other end.

In the second stage a new turntable was added. Connected to the first by a drive chain, the turntable held a circular plaster casting of a sand form taken from an Ontario beach. A second pointer assembly, positioned above the casting, was connected to the base of the

articulated arm. As the turntable rotated, this pointer followed the plaster's texture. A flexible shaft connected the pointer to the router and a slide assembly allowed the router to move up and down. The router could now mimic the texture of the plaster casting.

SAND-CASTING

Imagine three people on a cold, cloudy November day, carrying buckets, bags of plaster and a portable generator along a lonely stretch of Canadian beach. They stop every so often to feel the sand between their fingers. Their eyes search for a perfect formation in the sand. A passer-by curiously glances over. No-one seeing us that day could have guessed that I was preparing to do a wood turning.

This was the second attempt at sand-casting a texture for my sculpture. The first castings produced were heavy, fragile and lacking in surface definition. I had learned through this that the sand formations had to be firm enough to withstand the weight of the plaster when poured and large and bold enough to be reproduced using my machine.

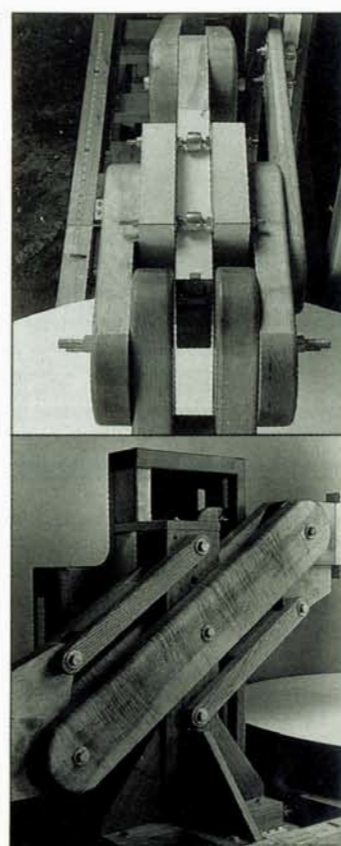
A 1525mm five foot circular ring was laid around the sand formation. Using the generator to drive a mixing wheel on a portable drill, plaster was mixed and poured into the ring. This was done very slowly using a shovel to prevent the plaster from splattering. After the sand was covered by the setting plaster, a second layer was poured. While this was still wet, a 50mm 2-inch thick torsion box disk made of plywood was laid on top. The disk was drilled with holes on one side. These holes allowed the plaster to bond to the disk. With the reinforcement of the torsion box disk, the plaster could be poured much thinner, solving the problems of weight and strength of the casting.

Back at the shop, two laminated 1525mm five foot cherrywood forms were waiting to be unclamped. Each form consisted of seven circular rings decreasing in size. Each ring had eight pieces glued end to end in a pie plate shape. The rings were planed flat then glued one on top of another, making sure to offset the glue lines.

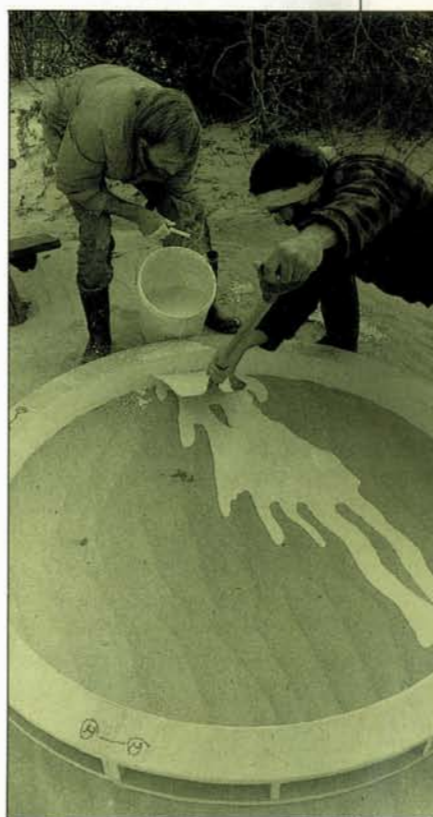
The plaster casting and one wooden form were mounted on the turntables. Together they weighed approximately 114 kgs 250 pounds. Standing beside the turntable I would grasp the wooden form and turn it, hand over hand. On each revolution I let the momentum carry it for an instant. I would then turn the handle advancing the position of the arm. I estimate that to build this sculpture I rotated the turntables approximately 4,000 revolutions.

RANDOMNESS

Today's technology enables us more than ever to create perfect forms. Pre-programmed machines produce objects that need never be

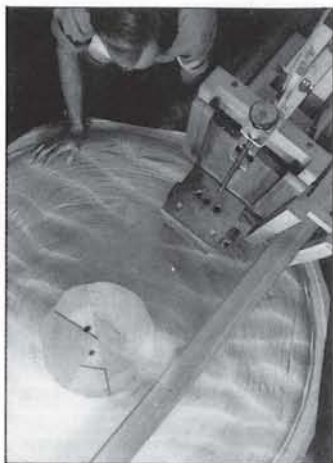


Detail shots of machine during first stage of construction.
Photo: John Reck



Plaster casting of sand formations. The author is on the left, his collaborator Richard Borroughs is on the right.
Photo: John Baumann

FEATURE



Machine in operation.
Overhead shot.

Photo: John Baumann

Making waves in the workshop.
Photo: John Baumann



Two wooden forms being glued.
Machine in background.

Photo: John Baumann

touched by a human hand. These pieces leave no evidence of the person responsible for their creation. With *Once Upon A Sandbank* my intention was not to produce a 'perfect' form. While it is very precise in its overall look, it has a randomness that cannot be easily duplicated by the modern machine.

Rotating the turntables manually produced textures that became records of my involvement. The longer I worked at rotating the turntable, the more I tired, causing the speed of the rotations to become slower and more erratic. These changes in speed caused the bit to leave different patterns as it cut through the material. Small swirl-like patterns were produced by the bit at slower speeds, while larger oval patterns were produced at faster speeds.

The weight of the arm was heavier at the router which forced the pointer against the plywood template. Because of this, the router was essentially hanging free in space. When it encountered a harder area of wood, it was forced upward and cut through less material. This allowed the natural grain of the material being cut to play a role in determining the surface texture of the sculpture.

Both sides of the two wooden forms were turned. I chose not to put the texture of the beach-casting on the inside. This was accomplished by removing the plaster casting from the machine and locking the router in its slide assembly.

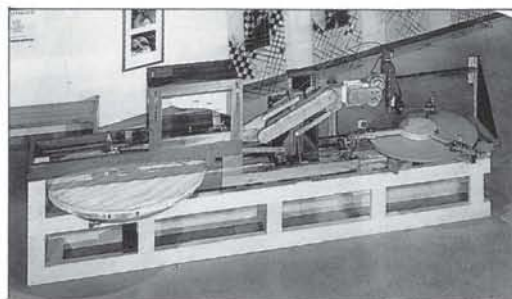
TEXTURES

I wanted the textures on these forms, when cut to their final shape, to converge on one another at the intersection of each piece. To create this effect, the two wooden forms were turned as mirror images of one another. This was accomplished by rotating the plaster casting

backwards when the second form was turned. The drive chain that connected the two turntables was crossed into a figure eight. This reversed the direction of the turntable holding the plaster casting.

Most of the turning was done using a half round router bit. On the last pass of each side, very little material was taken off. The arm was moved 1.6mm $\frac{1}{16}$ of an inch on each revolution. This left a clean, almost burnished finish on the material. In the end, virtually no finish sanding had to be done on the two forms.

Each wooden form was cut into six petal-like shapes with a jig saw, using a paper template as a guide. The petals were matched with their mirror image forms, jointed along the seam line and glued together. The areas that had been cut with the jig saw were then spoke-shaved and sanded.



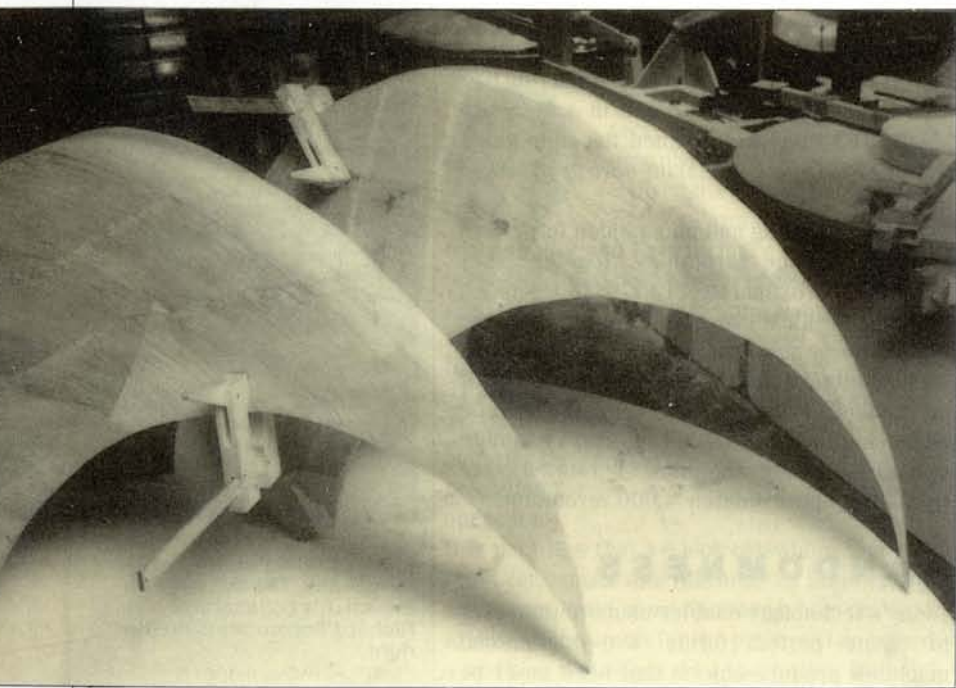
The machine on exhibition at the Thunder and Lightning Show in London, Ontario.

Photo: Stuart Matthews

The pieces were sprayed with a mahogany alcohol stain, using an airbrush. This step was very important. If left natural, the colours of the individual pieces of wood would have overpowered the shape of the piece. With the airbrush I was able to tone down light areas of the lamination. The result was that the shape remained the dominant visual element of the finished sculpture.

Seven hand rubbed layers of polyurethane and tung oil were used to finish the individual pieces. Four of the six pieces were chosen for the final shape of the sculpture. They were glued together side by side, with each piece progressively leaning slightly farther back. The weight of the sculpture was distributed so that it did not rest entirely on the single forward point. This point supported only the weight of the first two pieces, while the remaining two — wanting to fall backwards — acted to counterbalance the weight of the sculpture.

All elements in Nature are linked to one another. Wind and sand were both needed to create the sand patterns on the beach. I have tried to make this sculpture another link in that process by integrating the sand patterns with my skills as a tool builder and an artist. I hope that, by drawing attention to Nature's beauty, this sculpture will make people more aware of their own connections with Nature. ■



When I heard last year that Myford were discontinuing production of their revered ML8 woodturning lathe and replacing it with a model to be known as the Mystro, I could hardly wait for the unveiling ceremony at the autumn '89 Woodworker Show. Surely, I thought, a firm whose name has become synonymous with high quality machinery would not suddenly decide to compete in the lower end of the market. Rather its aim must be to produce a lathe superior to the ML8.

To be perfectly frank, my first impression was one of disappointment. The Mystro looked nothing like the ML8 and the bed consisted of two rectangular section tubes instead of the heavy duty cast bed I had hoped for. What is more, all the castings had been finished in what, to me, seemed a gaudy red, giving it at first glance a far eastern look.

LATHE TEST REPORT

KEITH ROWLEY

Keith Rowley looks at the NEW MYFORD MYSTRO (Variable Speed Model)

However, my disappointment began to lessen as I studied the specification. This indeed was impressive. After examining the machine closely, with the assistance of the demonstrator, I left the stand satisfied that in all probability here was a worthy successor to the ML8. But before I could give the final nod of approval, I would need to test the lathe under workshop and production conditions.

My chance came shortly afterwards. The book I was writing contained a chapter on Lathes and Accessories and I had included details of the ML8. Because of its demise, I was asked by Myford if I would delete reference to it and substitute details of the Mystro. So it was that a Mystro lathe, complete with floor mounted stand and 13 amp plug ready to

A Myford Mystro lathe shown with optional floor mounted stand and bowl turning attachment



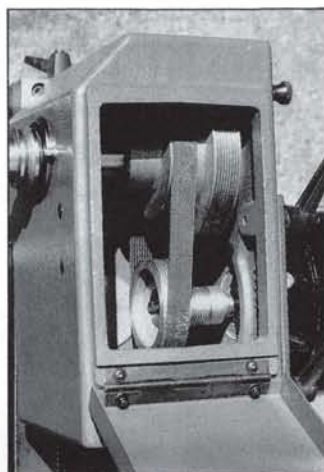
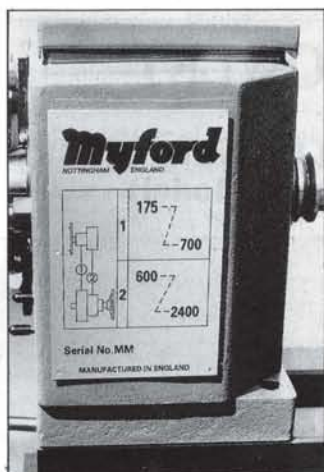
TECHNICAL



The new Mystro lathe shown with the headstock swivelled for large diameter turning

Mystro vari-speed — speed plate showing the very useful speed ranges, particularly the overlap between low and high speed

Another view inside the headstock showing the twin drive pulleys and broader belts, as used on vari-speed model. The spindle safety lock groove allowing safe reversing is also in clear view



be plugged in, was delivered for me to put it through its paces.

Magic Box

This particular model was the top of the range variable speed version instead of the usual standard five step pulley machine. Myford policy has been to stay well within the ideal performance graph of the electronically controlled speed adjuster called the INVERTER. Consequently, the two step speed facility ensures maximum efficiency and provides ranges of 175-700 rpm and 600-2400 rpm.

The lower range is primarily for heavy faceplate work while the higher one is ideal for spindle turning for component production. The inverter or magic box, as I call it, allows the 3 phase $\frac{3}{4}$ hp motor to be run from the normal single phase domestic power supply. Speed

selection is as simple as selecting the volume on a TV set. Never again will you have to stop the motor and fiddle about with belt changes. Although I have experienced variable speed units with other makes, all have been very noisy and unreliable. The Myford inverter unit and motor is extremely quiet and the company must be confident of its reliability because it carries a 5 year warranty! It's a gem. As standard, all models of the Mystro are fitted with a reversing/stop/start switch. The reversing capability makes it easier to obtain a superior finish when turning notoriously difficult and coarse grained timbers. For safety, a special locking device has been incorporated behind the spindle nose register to prevent faceplates and chucks unscrewing and flying off when the motor is reversed. The headstock is a hefty cast

iron box with a hinged lid to facilitate access to the drive system. It can be swivelled and locked on its vertical access at any position between 0° and 180°, with three indent positions at 0°, 45° and 90° for convenience. A plunger locking mechanism facilitates not only the easy removal of faceplates and chucks but also permits indexing of the spindle through 24 positions for boring and routing operations.

Both well proportioned headstock spindle and the tailstock are bored to take No. 2 Morse taper fittings. Heavy duty taper roller bearings are fitted to the headstock spindle which, together with the tailstock, is bored for No. 2 MT.

Although I had initial doubts about the bed, it is a very rigid assembly, comprising two substantial regular tubes mounted on cast iron raising blocks. The flat surfaces and parallel space

between the bed bars simplifies the machining of home made jigs for boring and routing.

The tailstock is bored to permit long hole boring with an auger. The handwheel to advance or retract the tailstock barrel is very comfortable in use and bears a strong resemblance to the one fitted to the ML8.

The tool/hand rests are very rigid being welded steel construction and their near vertical face makes them the face I prefer above all others.

No spanners are required for machine operation. Where necessary, adjustable position handles are used to give the most favourable clamping position. These are of ample construction and comfortable to the hand.

Bowl Turning Attachment

When turning diameters over 11" the headstock is swivelled to the 90° position and the bowl turning attachment slips readily into shallow housings machined on either side of the bed raising block. This attachment is extremely rigid, easy to adjust and allows a swing up to 450mm 20". (With the headstock swung through 180°, it is possible to swing larger diameters such as table tops.)

Tests

I was fortunate enough to have the vari-speed Mystro on test for some considerable time and I subjected it to the most stringent tests on all types of turning.

The bulk of my work is medium to heavy duty spindle turning, such as bar supports, newels and balusters, shop fittings and architectural turnings. My fears about the stability of the twin bed bars were soon dispelled. The turning of 127mm 5" square section stock, at the maximum length the lathe would accommodate, was no problem. It is a tremendous advantage on such work to be able to start on a slow speed to bring the piece into balance and then, by the turn of a knob, to increase to the optimum speed.

It overcomes the irritation of having to stop the lathe and change the belt — of great importance to the professional

in saving time and giving increased output.

The 3 phase 3/4 hp motor runs very sweetly and is extremely quiet. The highly effective air flow from the motor fan keeps it cool and, even after a full day's turning, there is not the slightest sign of either the motor or bearings getting hot.

The advantages of the swivelling headstock, as proved on the renowned Coronet Major, are many. Less space is required to site the lathe, left and right hand threads are no longer necessary as they were with the ML8, nor is the need to turn 'opposite hands'.

The heaviest piece of faceplate work I undertook during the test was a freshly felled sycamore disc 355mm 14" diameter by 101mm 4" thick. There was some initial vibration because of the imbalance but once reduced to a true disc I was able to take very heavy cuts, gradually increasing the speed to obtain optimum cutting

efficiency without any trace of vibration.

With the new Mystro the only minor irritation for me is the locking handle method securing the tool/hand rest assembly and the tailstock. It feels awkward and inconvenient to grope under the bed bars and, for the unwary, it is easy to catch your knuckles on sharp tool edges lying on the bench top, as I discovered. A lathe of this quality should be fitted with eccentric cam action handles like those fitted to Graduate machines.

User Friendly

Despite the above comment, after putting the Mystro to constant daily use over the whole of the loan period, I found it to be without doubt the most user friendly lathe I have ever used. The Myford designers are to be congratulated on producing such a quality lathe. They have obviously listened to, and

heeded, the advice of professional and production turners, for it is a joy to use.

Myford say the overriding considerations in producing the Mystro have been performance, versatility, longevity and, above all, accuracy. I think they have succeeded in all these aspects. Despite its being at the top end of the price range, I am sure the discerning woodturner will recognise it as being value for money. I certainly did and have since purchased the variable speed model with an extra long bed. (Note: Although it seems I am out of step and the red finish is very popular, I still don't like it and have changed mine to green.)

Vital Statistics

Distance between centres 1016mm 40" or 316mm 12 1/2" for short bed model. Maximum diameter turning 228mm 9" with tool rest in position and with the bowl attachment at

90° 508mm 20". Lathe speeds 350, 566, 916, 1483, 2400 rpm standard model. The Mystro weighs in at 79kgs 175lbs. Add on another 22kg 48lbs for the stand and a further 16kg 35lbs for the bowl attachment. No lightweight, and to get it in your workshop the machine dimensions are 1780mm 70" long and 520mm 20 1/2" wide. Myford provide a number of options and additional equipment.

The price of the standard Myford Mystro starts at £743, with the floor mounted stand adding a further £140.60. (Both plus VAT.) An industrial switch control, the variable speed unit and a few of the numerous accessories available, will cost you a few hundred pounds extra.

For further information and explanatory leaflet, while you gather up your cash, write direct to Myford Ltd, Beeston, Nottingham NG9 1ER.

0602 254222. ■

YOUR QUESTIONS ANSWERED

Readers are invited to send in questions on woodturning for answering by our panel of experts.



John Sainsbury

We are delighted that John Sainsbury, the well known woodturner, author and teacher, has agreed to join the panel. Our technical editor, John Haywood, has this to say of him:

'Some things and people change but John Sainsbury

remains the same man I first met over 30 years ago. That same broad smile, cheerful greeting and glorious but immaculate bow tie have never faltered. Outwardly he has not changed but with numerous books and articles behind him, one can never accuse him of failing to move with the times. Countless schoolchildren, students and woodworkers worldwide have come to respect his knowledge of tools, timber, techniques and turning. I am so glad to know he has agreed so readily to join us.'

Welcome to the panel, John. We all look forward to sharing with you whatever problems Woodturning readers throw at us.

WOODTURNING LETTERS



OUR OLDEST SUBSCRIBER?

I am very pleased to see that you are bringing out a new woodturning magazine and I wish to have a subscription as soon as it is issued.

As I am getting on in years (92) I have given up making small tables etc. and devote myself to my M.L.8 lathe which has been a good friend.

I expect you may remember me for sending you some of my snaps, like the small

rocking horse which I suggested Peter Malcolmson might write up — which he did very well. I have received a few letters from Dingwall from The Rev Holroyd who tells me he has given up writing articles till he retires.

Gerald Gayford

Farm End, Dairy Lane, Edenbridge, Kent TN8 6RA.

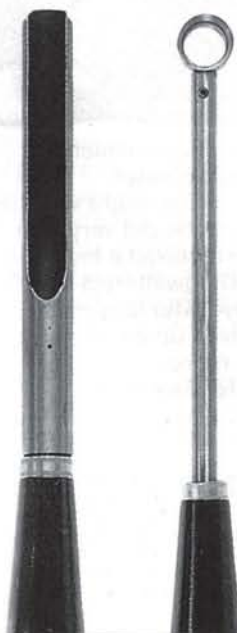
In recognition of Mr Gayford's long support of our sister publication Woodworking International and its forerunners, we have extended his subscription to Woodturning from one year to three years. — Ed.

Swedish Steel

'Swedish steel' or 'Sheffield made' have signified quality for countless generations of tool users. But is the legendary Swedish steel really superior? Certainly, the turning tools I brought back from Sweden some years ago seem to retain their edge longer than most. Many woodturners have their favourite tools and those manufactured by C. I. Fall of Sweden are in that category for me.

Admittedly, the range of Swedish turning tools has seemed limited, in comparison with the wider assortment available in the UK, but Fall have now extended theirs considerably. Swedish turners were not previously provided with a deep fluted bowl gouge but this has now all changed. This Swedish manufacturer offers an HSS version of most of their tools, including the bowl gouge, hook and ring tools and the replaceable tip scrapers. Like Coronet, C. I. Fall use a clear finish on their birch handles for the carbon steel tools and a dark stain for the HSS versions. Swedish turning tools generally have shorter handles than ours but I find them quite comfortable in use, although the new bowl gouge is of course fitted with a long handle.

- Fall bowl gouge chisel
- Fall turning eye or ring tool
- Fall round turning chisel, replaceable cutting edge
- Fall square turning chisel, replaceable cutting edge



WOODTURNING

THE TURNING WORLD

JOHN HAYWOOD

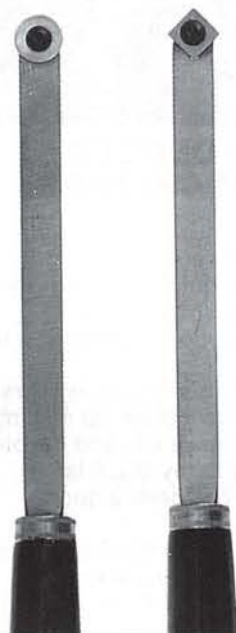
John Haywood looks at what's new



One of our team of professional turners confirms my own experience that the Fall tools are excellent. Wherever you are, they turn up with either their own brand name on the handle or that of Luna.

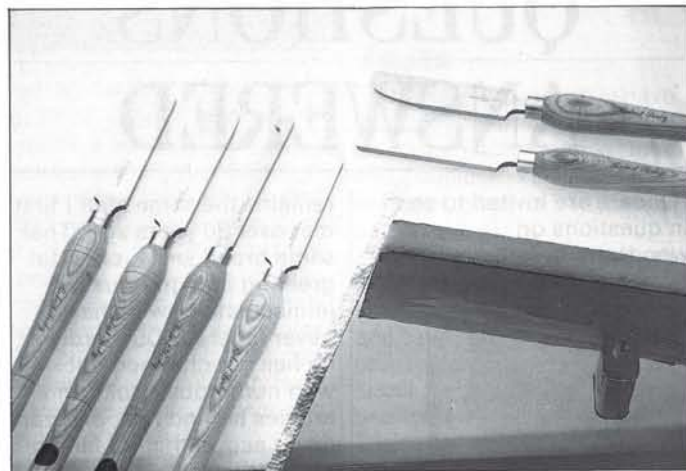
Full details of these tools from the exclusive UK agent: **LUNA Tools & Machinery Ltd**, 20 Denbigh Hall, Bletchley, Milton Keynes MK3 7QT. 0908 70771.

A very helpful brochure is available, describing the full range.



Groupies

We are getting used to the disappearance of so many long established brand names in the tool world and now old hands like Robert Sorby have been incorporated in Mastercraft Tools Ltd. Others in the group



include Spiralux, Tyzack-Turner, Steadfast, Vanguard and Holliswood. Robert Sorby's name has proudly appeared on so many hand tools for over 200 years. Tyzack-Turner saws were around at the time of Waterloo, fittingly celebrated by Tchaikovsky with his '1812 overture'.

Sorby are not letting history hinder them in introducing further new products to their already extensive range of

turning tools. Now they have a really massive extra heavy duty 20mm $\frac{3}{4}$ " bowl gouge, priced at £29.50 VAT included. Their two ring tools of 12mm and 25mm — $\frac{1}{2}$ " and 1" — have been improved to incorporate an internal bevel. While two heavy duty scrapers for bowl finishing have also been added. The latter are available for either inboard or outboard use and priced at £26.89 handled or £21.71 when fitting your own. Ring tools are £14.09 and £19.60 respectively or cheaper still at £10.53 and £13.76 when unhandled.

A couple of years ago we were first introduced to the Dennis Stewart system. Dennis Stewart, a well known American turner who specialises in producing elaborate art forms, developed a number of tools to overcome some of the technical problems and make life easier for himself. He also made tools for other woodturners and now Robert

- Sorby standard parting tool
- Sorby standard scrapers



Sorby are manufacturing the whole system in Sheffield. The innovative Stewart system is too complex to describe briefly, so we will explore this in depth in a forthcoming issue.

Meanwhile, if you cannot find a Sorby stockist with all these goodies, write direct to: **Tony Walker, Marketing Manager, Mastercraft Tools Ltd**, Athol Road, Sheffield S8 0AP. 0742 554231.

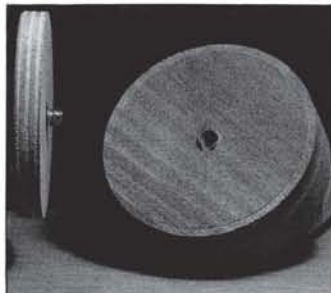
Screwforms

Screwchucks are one of the turner's best friends but at the same time they can be most frustrating, especially if just a standard woodscrew is used. We have to thank Jerry Glaser of the US for rethinking the problem. Jerry initiated the parallel thread screw, since copied by most chuck manufacturers. However, many of us are committed to chucking systems that do not incorporate a parallel thread screw. But, help is at hand! Two years ago, I came across the Turnbry parallel thread screw at an exhibition and contacted Bryan Everitt the engineer manufacturer. His replacement screws are provided with a $\frac{1}{4}$ in shank and by simply enlarging the screw hole, where necessary in existing chucks, the parallel thread screw can be fitted in minutes. The Turnbry screw is pushed home in the previously prepared hole with the shoulder tight against the screwchuck faceplate. As the Turnbry screw has a flat formed on the shank, the grub screw point on the existing chuck needs to be ground or filed flat. The grub screw is then tightened to line up with the shank flat of the parallel screw. As simple as that. Bryan Everitt even gives you the correct pilot hole sizes for both hard and soft woods with the instructions. The kit includes three parallel screws with $\frac{1}{4}$ in, $\frac{5}{16}$ in, and $\frac{3}{8}$ in diameter threads for £10.50, which includes post and packing.

In my own case, the Coronet screw chuck was not so simple to update but a quick phone call to Bryan brought a modification by return. This has proved itself, although an even simpler solution has since

Turnbry has since added Jubilee screwchucks to the list and these are modified, overhauled and by all accounts are refurbished to their original state — or better rather — for the inclusive cost of £18.70.

■ **Held quite firmly on only two and a half threads of the $\frac{5}{16}$ " Turnbry screw. Note thread cut into wood enabling accurate re-chucking.**



I have also replaced the woodscrew in the earlier Craft Supplies, '6 in 1 universal chuck'. This has a $\frac{1}{4}$ in hole, so no modification is needed.

Apart from the parallel thread screws, Bryan Everitt offers a light engineering service to woodturners for 'one-off' pieces of equipment that they may require.

Try him, you will be delighted: Bryan Everitt, 16 Souberie Avenue, Letchworth, Herts SG6 3JA. 0462 677168.

If you have products or services that are helping to keep the world turning, John will be glad to hear of new developments or additions.

LRE

Undoubtedly, readers who scan the advert pages of woodworking magazines will be familiar with the initials LRE. Apart from selling top quality new and reconditioned Graduate, Jubilee, Wadkin and Wadkin Bursgreen lathes, LRE



models other than the Graduate and Jubilee. If you have never seen one of their reconditioned machines

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← **De luxe Jubilee 5" x 30" reconditioned**

← **Graduate short-bed reconditioned**

then do ask someone who has. LRE's reconditioning service puts many a secondhand woodworking machinery dealer to shame. Having visited quite a number of these establishments, I have been astounded by their attempts. Further comments would be libellous. Sometime in the future, I am going to make use of LRE's rebuilding service and will report fully on the operation.

Meanwhile, if you are looking for a quality new or secondhand machine, whether it be a lathe or other equipment, try LRE first. Certainly, if you need spares or accessories for the ever popular Harrison, Wadkin, Myford stable then LRE are the people.

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been devised. Coronet chuck owners simply send their chucks to him and he carries out the modification and returns the chuck completed with the three screws and allen key for £17.00. Well worth it, for this is an excellent chuck.



■ **1 1/2" Coronet chuck with rear loading conventional countersunk screw, two threaded portions, allen key and special spanner.**

■ **1 1/2" Coronet chuck modified by Turnbry. Three front loading parallel thread screws and one allen key.**

do much more. Providing spares for older machines no longer in production plays an important part and as engineers, they have developed a number of accessories for the Graduate and Jubilee models. These include 300 and 450mm — 12in and 18in bed extensions, indexing, chucking and their 'Ambidex' faceplate.

The latter is particularly ingenious, for these faceplates screw on either side of the headstock, thus saving the expense of equipment duplication. The Ambidex is available in the following sizes; 75, 100, 150, and 200mm — 3in, 4in, 6in and 8in. Indexing and chucking is provided for

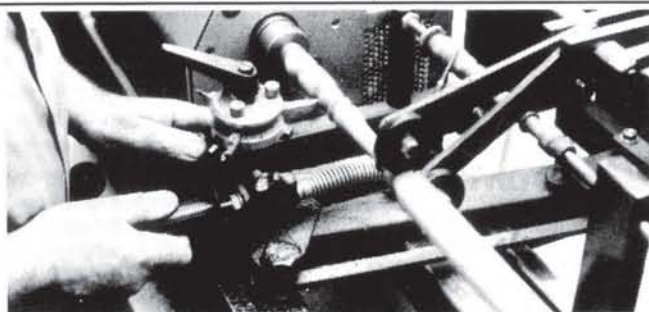
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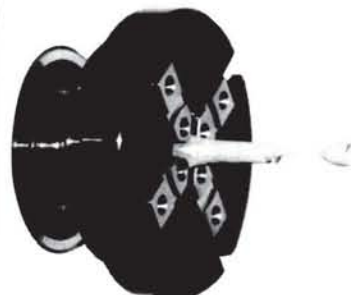


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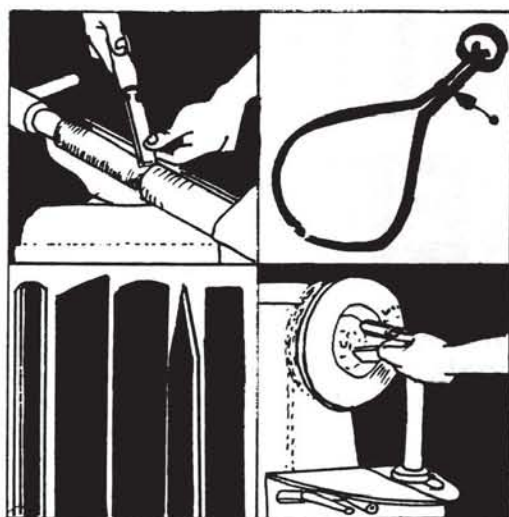
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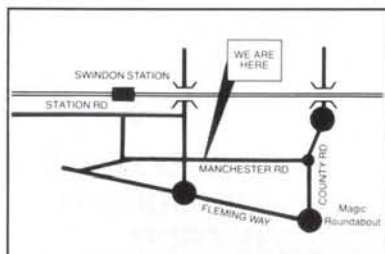
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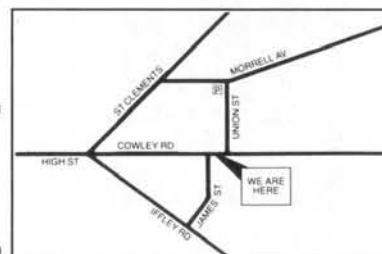
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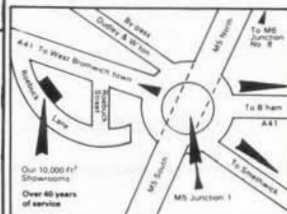
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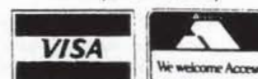
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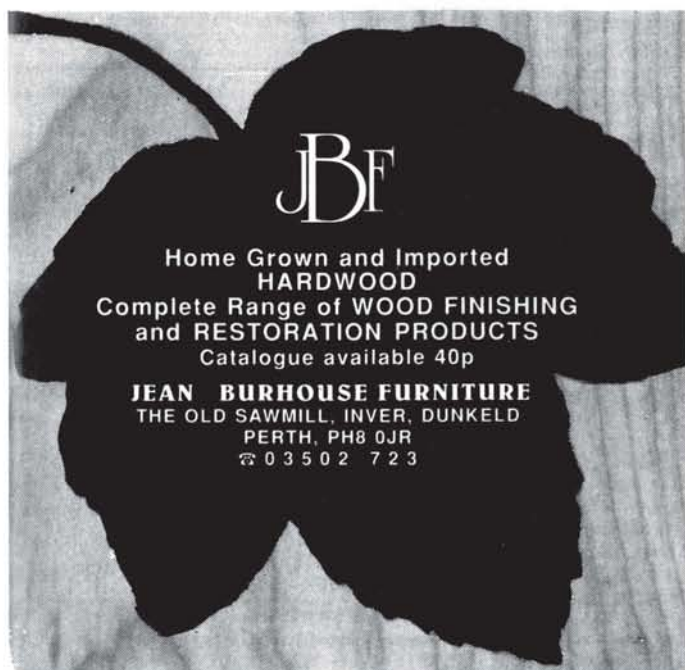
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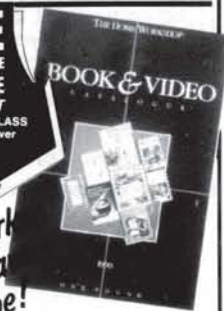
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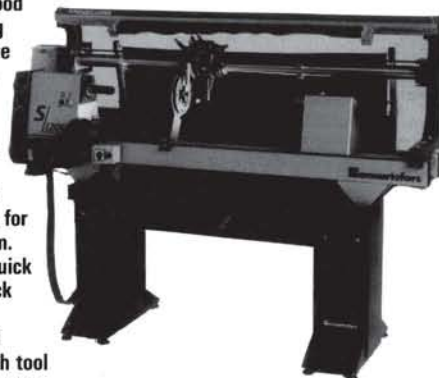
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