



GREENWOOD CRAFTS

❧ A COMPREHENSIVE GUIDE ❧

Edward Mills and Rebecca Oaks
Foreword by Mike Abbott





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Contents

Acknowledgements

Dedication

Foreword by Mike Abbott

Chapter 1 An Introduction to Greenwood

Chapter 2 The Greenwood Workshop

Chapter 3 Treen and Turning

Chapter 4 Greenwood Chairs

Chapter 5 Greenwood Baskets

Chapter 6 Garden Structures

Chapter 7 Building with Greenwood

Chapter 8 Agricultural Items

Chapter 9 The Future for Greenwood Crafts

Appendix Personal Budget and Profit Plan Templates

Glossary

Bibliography

Further Information

Index

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RO

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Dedication

It has been two short years since we dedicated our last book *Coppicing and Coppice Crafts* to the memory of the great craftsman Colin Simpson, who would have been willing and able to add so much depth of knowledge to the subject of greenwood crafts. It is with sadness that now we honour the memory of yet more of the greats of the woodland scene in Cumbria. Alan Shepley who worked tirelessly to raise awareness of woods and woodlands, Stella Kenyon who helped keep swill baskets going in the region, Bill Airey, perhaps the very last of the old coppicemen of the Lake District, Rupert Hoskinson who had only just begun to find his niche and Arthur Barker who championed the pole lathe, long before others had rediscovered the pleasure it can bring. We can only aspire to match them in their skills and enthusiasm for all things woody and hope that by remembering them their work lives on.

Foreword

I was fortunate to grow up next to a woodland and like many children in the 1950s, I spent my childhood carving sticks, building dens and generally playing about with bits of wood. I had no idea at the time that by taking these activities just a little further I would have been able to create a range of items such as spoons, bowls or even chairs. Not until I reached the age of twenty-six, did I fall upon Herbert Edlin's book *Woodland Crafts in Britain*, which documented a wide range of crafts before they died out forever. It was like having grown up believing that all fruit and vegetables came from the supermarket, and then being presented with a book about organic gardening.

After a dozen years practising these skills, I was given the opportunity to write my own book on the subject, this time as a practical handbook of techniques for the present day. It was never intended to be a manual for professional furniture production any more than a book on vegetable gardening is aimed at professional market gardeners. I just wanted to help people to experience the fulfillment that can come from working with green wood using simple hand tools.

Over two decades later, *Greenwood Crafts* now comes as a welcome addition to the remarkably small number of books on the subject. Throughout the following pages, it describes numerous examples of people successfully earning a living in a wide range of green woodwork skills. I hope it will go on to inspire a new generation to experience the delights of green woodwork either as a fulfilling hobby or indeed as a viable career.

Mike Abbott, Greenwood Cottage,
Herefordshire, March 2012

Chapter 1

An Introduction to Greenwood

We have such a rich tradition of crafts in Britain and of woodcrafts in particular. There was a time when every village or hamlet had a carpenter or woodworker who could make any basic furniture needed in their locality. Moreover the home production of household wooden items was so taken for granted that it hardly even merits a mention in historical documents.

Consider for a moment the extent of skill and creativity that this mass production of every-day objects represents. The universality of wooden items should not lead us to devalue the widespread ability in the past to make something useful from a piece of wood, and it is this collective memory of an almost lost facility that draws us to take knife to wood and start whittling.

There is no doubt that the disaster of the 1914–18 war hastened the de-skilling of Britain's working population. The loss of a generation of young men broke the continuity of skills and the supply chain of materials. Robin Wood, a talented craftsman who set up the Heritage Crafts Association, laments the loss of the terminology with which a furniture maker would discuss his timber requirements with the forester. This vocabulary describing the different states of seasoning of wood may have rivalled the famed variety of Icelandic words for snow.



Fig. 1.1 Whittling spoons.



Fig. 1.2 Mike Abbott instructs a group of students.

From the 1920s onwards a new tier of timber merchants arose, causing the separation of the primary source, the forest, from the woodworker. Wood in its raw state became devalued, whereas seasoned wood processed into planks or blanks, could command high prices. Never again would the two extremes meet until the birth of what became known as the ‘greenwood movement’ in the 1970s.

Where did it all begin? Herbert Edlin in his fabulous book *Woodland Crafts in Britain* (Edlin, 1949) created a truly ‘comprehensive guide’ to all the many fast-disappearing woodland trades. He did not, however, refer to ‘greenwood crafts’; this term most likely emerged from America in the 1970s. Mike Abbott, one of Britain’s best known contemporary exponents of greenwood crafts, cites John Alexander (now known as Jennie Alexander) as an early influence on the emerging greenwood movement with her book *Make a Chair from a Tree: An Introduction to Working Green Wood* (1978), also Drew Langsner and his book *Country Woodcraft* (Roedale Press, US 1978). The Greenwood Trust was set up in 1984 by the enlightened board of Telford Development Corporation, with Gerwyn Lewis as the first manager.

Meanwhile, up in Cumbria, Bill Lloyd, Michael Gee and Tom Clare set up the ‘New Woodsmanship Trust’ in 1984 and launched it officially at the very

first *Weekend in the Woods* in 1986, which attracted more than 2,000 people to Brantwood on the shores of Coniston Water. Mike Abbott began his Living Wood Training courses in 1986 and many of the more experienced contributors to this book can trace their journey back to a Mike Abbott course.

In 1989 Mike Abbot published his first book *Green Woodwork*, which was hugely influential in stimulating an interested audience for the new/old crafts. Mike caught the zeitgeist and made woodcrafts accessible to a much wider audience, especially those who wanted the satisfaction of making something functional and beautiful with their own hands. Many people attending a greenwood course never made more than one chair. But some people became so inspired they set up their own workshops in garages and back rooms. In response to this burgeoning interest, in 1990 The Association of Polelathe Turners (APT) was formed. The APT and their annual Bodgers Ball has gone from strength to strength with over 700 members currently, its success reflecting the continuing and growing interest in greenwood crafts.



Fig. 1.3 The last bodger, Owen Dean, in his workshop.

By contrast, coming from an earlier tradition of production furniture making, greenwood bowl and spoon maker Robin Wood is not at ease with the amateur nature of some new generation greenwood workers. His role models are the time served apprentices of old, whose skill and knowledge were imprinted in their muscle memory, making a tough job seem effortless.

Productivity was key to these craftspeople and mass production can be seen in the stacks of products towering behind them in old photos. This industrial-scale production of wood-based crafts has largely disappeared, the chestnut cleavers of Kent and East Sussex being the exception to this trend. In the past a single product was made in staggering quantities by craftsmen such as the famed bodgers of the Chiltern beech woods, north of London, who turned out chair legs by the thousand until the 1940s. Indeed the term bodger originated from the Chiltern region and was specific to a fairly limited group of workers that produced beech chair legs that were carted off to be assembled in chair works in the local market town of High Wycombe.

It would seem that Robin Wood is not alone in his concerns about the loss of commercially productive skills. A recent survey of pole lathe turners canvassed as part of Professor Ted Collin's report *Crafts in the British Countryside* (Collins, 2004) found that 60 per cent expressed concern about 'hobbyists' threatening their profession. It is certainly true that there has always been anger caused by those who 'go on a course one week and set up to teach it the next'. However, there is quite a difference between the many people who take up greenwood working for pleasure and recreation and those who are trying to make a living. When an industry is as threatened with extinction as woodland crafts undoubtedly has been, our focus should be on raising everyone's skill level, rather than knocking down those that do not make the grade.

The Collins' report also highlights the anxiety the pole lathe turners felt about competition from imports. Of the twenty-five people who responded to a survey, fourteen cited this as the greatest threat to the future of the industry. One might imagine that in the eight years since the report was published little has happened to allay those fears. However the rise of the anti-globalization movement and the apparent enthusiasm shown by the public for supporting local produce must cheer all but the most pessimistic of greenwood workers. There was a time in the 1990s when it seemed that interest in wood and woodcrafts was perhaps a passing phase, with a lively counter culture of garden designers promoting glass and steel who threatened to oust the tree huggers from their rustic perches. It was not to be however, and although the two contrasting styles are often found side by side, it would seem that

beautiful, tactile, versatile wood will always have the fondest place in the nation's collective heart.

Sourcing wood

Finding the right wood for your greenwood project can be a problem. It is not as if you can go down to the local DIY shop and pick up a fresh ash log for cleaving. You may have a tree come down in your garden or neighbourhood but then you are obliged to find a project to match the wood available.

However, if you have a well-developed plan to make something specific or a business proposal with a requirement for a steady supply of materials, then you are going to have to seek out a reliable supply of green wood. This can be obtained in two ways:



Fig. 1.4 Bench created and carved by Georgia Wright in Whitstable.

- Buy from someone who is already felling trees and has timber to spare.
- Cut your own with the landowner's permission.

It may be quite possible for you to cut your own raw materials, but this will depend on whether you wish to spend time doing this as part of your hobby or business, or whether the creative aspect is more important. In reality, if you are just beginning, the supply of raw materials you are likely to require will be quite small and so sourcing them from others is a good option. If the type of things you plan to do adds a lot of value and uses small amounts of wood, buying in your material will remain the best way of getting what you need. The

wood might cost a bit more but you will be able to specify the material you need and simply take a delivery, saving a lot of time negotiating with a woodland owner, and you can return materials that don't meet your specification; you will also potentially save the time and expenses of buying and operating a chainsaw.

Buying in timber

There are many sources of timber available. Anyone felling trees, unless they are selling it on a commercial scale (a 25-tonne timber wagon at a time) or unless they have their own customers for firewood (which will mean that they never have a surplus), will be happy to part with some timber, often for small amounts of money. The important thing is that you shouldn't expect to acquire wood for nothing. The trees have often been growing for many years, and woodland owners may have had expenditure related to their upkeep, such as fencing, deer and squirrel control, control of invasive species, insurance, certification and other paperwork associated with owning land. Therefore, it is only right that some of this expenditure is reimbursed through timber sales, whether a lorry-load at a time or for a handful of walking stick blanks.

TIMBER SOURCES

Tree surgeons
Landscape gardeners
Wildlife organizations
Conservation volunteer groups
Farmers
Woodland owners
Coppice workers
Forestry contractors
Firewood suppliers



Fig. 1.5 Using a chainsaw, with all the correct personal protection: helmet, gloves, trousers and boots.



Fig. 1.6 It is worth searching out your local coppice merchant.



Fig. 1.7 A mix of firewood and charcoal or lots of potential greenwood projects.

The market for small quantities of timber is set to be buoyant for some time to come. As householders try to stem their rising fuel costs, be it oil, gas, coal or electricity, they are supplementing their heating with wood burning stoves. Consequently more and more people are supplying firewood to meet the growing demand. One would hope that the timber they have for sale is seasoned and as such is mainly past its peak for turning into greenwood craft products; however they may have bought it in green (or felled it themselves) which is why we suggest firewood suppliers as a source of timber. We have yet to meet anyone involved in tree felling who would not prefer to see trees turned into some fabulous and useful article instead of into the inevitable wood smoke, even though keeping warm is an essential human requirement.

If you have exhausted the possibilities offered in your location of following the distant sound of chainsaws and making a deal with the timber fellers directly then you may have more joy with some of the sources suggested. Sometimes you can obtain wood from a local tree surgeon – this can be an interesting source of different and sometimes unusual woods, even if occasionally they may be odd shapes and sizes.

There may be no one from whom to purchase sorted raw materials in your

area. In much of the UK, the days of the coppice merchant who could supply any number of a variety of raw materials are long gone. In this case, the only option might be to cut your own wood.

Cutting your own wood

So, how do you find the wood you need? The best way is to approach woodland owners or their agents and advisers; there are still some estate foresters and they are probably going to be the most receptive to such an approach, along with county wildlife trusts, conservation groups and the occasional local authority. Some woodland owners or foresters will be happy for you to cut your own supplies with a written contract and a map to work from.

If you decide to cut your own wood, this may well involve some coppicing (Oaks & Mills, 2010). If you need small dimension materials, such as hazel, which is cut on a relatively short rotation, then it is worthwhile developing good relations with the woodland owner to improve the chances of being able to cut again when it is ready. It can help to offer to assist with things such as protection of the coppice regrowth against damage by deer; on larger estates, this is sometimes seen as expensive micro-management, but for your security of supply it could be invaluable. This help could include protection against browsing using temporary fencing, dead-hedging, or placement of chemical or natural deterrents; all this has to be weighed up against the possible conflicting needs of a game shoot or other woodland enterprises.

THE ADVANTAGES OF CUTTING YOUR OWN WOOD

- You have control over what you cut, and can sort materials as you go for different products.
- You can make sure you get the best quality materials for your needs.
- You can source the raw materials when you need them.
- You might identify other materials during cutting that could be sold on to other craft workers.
- You may come across materials that inspire you to experiment or make something new.
- You can cut out the intermediaries, so the wood may be cheaper.



Fig. 1.8 Hazel coppice six years old.

It may be possible to obtain a grant from the Forestry Commission for help cutting neglected coppice and protecting the regrowth, and an offer of help to the woodland owner with such paperwork may be all that is needed to secure good regrowth, some financial resources, and some quality materials to cut the next time around.

	Alder	Ash	Beech	Birch	Black-thorn	Elm	Fruit wood	Hazel	Holly	Horn-beam	Lime	Oak	Rowan	Sycamore	Sweet chestnut	Willow	Yew
Bentwood chairs		*						*				*					
Chair seats						*					*	*				*	
Cleft gates/hurdles		*										*			*		
Creels								*								*	
Cricket bats																*	
Mallets		*				*	*			*		*					*
Rustic furniture	*	*		*				*	*	*		*		*	*		*
Shakes												*			*		
Spoons				*			*		*					*			*
Steam bending		*	*									*					
Cleft chairs		*	*				*					*		*	*		
Stick chairs	*	*		*		*		*	*	*	*		*		*		*
Swills												*					
Tool handles		*						*									
Treen		*	*	*			*						*	*			
Trugs		*		*												*	
Turnery	*	*	*	*	*			*	*	*	*	*	*	*	*		*
Walking sticks	*	*			*			*	*			*					*

Fig. 1.9 Wood and its uses.

TIMBER MEASUREMENTS DEFINED

Cord – a stack of round wood that measures 4 by 4 by 8ft ($1.2 \times 1.2 \times 2.4\text{m}$).

Tonne – that would be easy to measure if you could put it on the scales but a rule of thumb is $1 \times 1 \times 2\text{m}$, allowing for air spaces or 1 cubic metre of solid wood (this is for green wood, not seasoned wood).

Diameter at breast height (dbh) – judged to be the diameter of the tree at 1.3m from the ground.

Cube – $1 \times 1 \times 1\text{ft}$.

Hoppus foot (hft) – an imperial measurement that allows for the wastage that occurs when a round log is squared for planking; the formula for its calculation is Mid Quarter Girth (in inches) squared divided by $144 \times \text{Length (in feet)}$.

One hoppus foot = 1.273ft^3 ; $27.74\text{hft} = 1\text{m}^3$; and $1\text{hft} = 0.03605\text{m}^3$. A hoppus foot is approximately 21 per cent oversize compared with a true cubic foot. (Hart, 1991)

Bundle – what a person can comfortably carry alone. This has reduced somewhat over the years. A bundle of hazel hurdle rods was usually made up of twenty five but these days you may only get twenty.

This type of bartering might help you clinch the purchase of some wood,

but the offer of cash is usually more important. So, how much should you offer for the materials you need? In most parts of the country buying acres of coppice at auctions in the local pub has now disappeared. Auctions of firewood are now much more common, but this is no good to the green woodworker. The individual local deal is by far the best way forward. You might have to buy wood by the tonne, by the hoppus foot, cubic foot, by the stick, by the bundle or by the load, standing or measured felled. It all depends on what you are buying and how much of it there is.

Cutting wood is normally a winter job. This adds to the amount of planning you need to do. On many estates, the game enterprise is the most important. This can mean that cutting wood won't be allowed until the end of January, but you would normally be expected to be out of the woods by the end of March; this is all to do with avoiding disturbance of pheasants and other game. The implication is that if this is your only supply of wood, you may need to cut and extract a whole year's supply between February and April. This can be a problem, depending on what you are making; by and large, turnery needs green wood, and wood a year old won't be as easy to turn. Some crafts require wood to be prepared and then seasoned for a while, so for these products this is less of an issue; some materials such as hazel, will certainly become too dry and brittle if left for a year before being used.

Wood and its uses

Alder (Alnus glutinosa)

Alder wood does not last well outside unless submerged in water where it has a reputation for lasting many years. It is a relatively soft wood, great for turning, carving and whittling. It cleaves fairly well and takes nails well without splitting. When freshly cut, alder wood turns a rather startling deep orange colour but this gradually fades, though retaining some of this lovely colour. Poles tend to grow very straight and so are suitable for broom and rake handles; traditionally, alder was used for clog soles and reputed to make the best charcoal.



Fig. 1.10 Very tall alder coppice poles.



Fig. 1.11 Ash poles on limestone.

Ash (Fraxinus excelsior)

Ash coppices well and can make a large timber tree. The wood is quite clean and pale but the grain is more pronounced than some of the other paler woods. It is an extremely versatile wood and has countless uses; cleaving, turning and steam bending. Clean, fast-grown ash cleaves beautifully; it is a wood strongly resilient to shock and this means it is highly regarded as the wood to use for

handles of all types. The wood does not last well outside but this is more than made up for by its other characteristics.

Beech (*Fagus sylvatica*)

Beech does not coppice well and therefore is more often grown as maiden trees. It turns well and when dry is a hard, strong wood. Beech has a light brown hue with flecks that make it easily identifiable; when left outside, it is susceptible to the fungus that makes timber spalted and is prized for turning, though less useful for garden furniture.



Fig. 1.12 Silver birch.

Birch (*Betula pendula*)

Birch coppices well when a young tree, but not so well when mature. Its wood is pale with brown flecks within, and sometimes has a rather nice wavy grain. It is a soft wood and is wonderful to turn when fresh and sappy. It makes straight poles when young and is good for rake handles and most types of turnery; stick chairs made from birch are light but strong. It does not last well outdoors.

Cherry (*Prunus avium*)

Wild cherry or gean has a versatile timber, rich in brown colours and texture; it

turns well and can be readily carved, making for super spoons. A cherry tree large enough to be planked is well worth designing a special project for.



Fig. 1.13 Unusual cherry coppice.

Elm (*Ulmus procera*)

Because of Dutch Elm Disease there is little elm remaining now over much of the UK. If you are lucky enough to be able to find elm, then it is worth hoarding until you can use it. The wood is tough, hard and resilient. It has a lovely rich brown colour with a characteristic, often complex grain; which makes it resistant to splitting. Wych elm is more frequent in the North of England and Scotland; it can have a greenish hue to the wood. Elm lasts quite well outside, and for decades underwater, making it the wood of choice for early wooden water pipes. Elm turns well and it is traditionally used for chair and stool seats as planks, because of its resistance to wear. Elm bast is often used for chair seating.

Hazel (*Corylus avellana*)

Hazel is the ubiquitous woodland shrub with an ability to grow almost anywhere. It is very fibrous, and when twisted the fibres separate but retain much of their strength; this gives hazel a unique characteristic that is exploited in many crafts; it also cleaves well. Its main uses are hurdles, garden products, handles and sticks. It turns well and is probably the best for stick chairs. It has a pale wood and variety of bark colours.



Fig. 1.14 Massive open-grown hazel.

Holly (*Ilex aquifolium*), *Hawthorn* (*Crataegus monogyna*) and *Blackthorn* (*Prunus spinosa*)

We have grouped these species together, as they are less commonly used; however they all coppice fairly well and are usually not of large diameter. They are all hard, dense woods, resistant to cleaving. Holly is a pale, almost ivory colour, excellent for turnery while hawthorn is a plain brown and could be used for most turned items. Blackthorn is a richer colour generally and is harder still; it makes an excellent chopping block if you can find a piece large enough. Any of these species can be used for walking stick blanks.

Hornbeam (*Carpinus betulus*)

Hornbeam coppices well and usually makes only small timber trees. It has a fairly plain, pale wood. If you have some hornbeam, give it a go, but it should be worked when green, otherwise it becomes difficult to work because of its hardness when seasoned. It does not last outside and cleaves poorly so its uses are limited. It would make fair stick chairs if cut when young; try using it for chair bottoms or kitchen treen.



Fig. 1.15 Hornbeam coppice regrowth.

Field maple (Acer campestre)

Field maple does not have much of a tradition of being used by greenwood workers, but like most maples, it will turn beautifully when green and although a pale wood, it can have a lovely figure; it has been prized from Roman times throughout history for carved and turned bowls.



Fig. 1.16 Leaf of the field maple.

Fruit wood (various)

These woods include trees found in orchards but also crab apple found in semi-natural woodlands. Just like many other shrubs, these are often rather slow grown and tend to be dense and hard. They resist cleaving; the woods often possess rich colouring and beautiful grain, and are highly prized for

small turnery and carving, especially spoon making.



Fig. 1.17 Crab apple tree.

Lime (*Tilia* sp.)

Native small-leaved lime and hybrid lime wood have similar properties – the wood is very pale, soft when green but hardening when seasoned; it is very light in weight when seasoned. When green, the wood cleaves and turns well, and is a superb carving wood. The bast is very strong and fibrous and is used for rope and chair seating.



Fig. 1.18 Small-leaved lime trees.

Oak (*Quercus robur* and *petraea*)

The two native oak species have very similar timber; the wood is excellent for cleaving, is hard, tough and durable outside. The pale brown-coloured wood often has a rich figure, and if used for rustic purposes outside, it will weather to a silvery colour. The wood can be turned and riven for all manner of uses including gates, baskets, shakes, furniture of all types and timber frames. In all uses except swill baskets, the non-durable sapwood is normally discarded.



Fig. 1.19 High quality English oak tree.

Poplars (Populus sp.)

There are two poplars you may come across – the aspen and the black poplar. Neither coppices particularly well but both regenerate by suckering. The wood can sometimes be brittle and is not known for turnery, nor are they durable outside; aspen makes decent besom and rake handles; black poplar has been recorded as being used for centuries-old cruck timber-framing. It is very light and as planks was the wood of choice for making carts.

Rowan or mountain ash (Sorbus aucuparia)

There are still some people who won't cut this species for fear of it bringing bad luck. It produces quite a clean, slightly creamy white wood, which could be used for a number of products. It is the traditional wood for much kitchen treen in Scotland; it does however have quite a strong smell (and taste) when fresh. It carves very well and has a wonderful, silvery bark, useful in stick

chair-making.



Fig. 1.20 Rowan or mountain ash.

Sycamore (*Acer pseudoplatanus*)

Regarded as a non-native and rather a weed by some people. The wood is pale and can be rather plain but occasionally it may have some truly wonderful figure with all types of ripple effects. It is probably the best turnery wood, not being liable to splinter, and is often used for kitchen treen as it is reputed not to taint the food put upon it.

Sweet chestnut (*Castanea sativa*)

Another species not regarded as being native but widely planted in long-established coppices in the south east, sweet chestnut is one of the most durable timbers and doesn't have the unusable sapwood that oak has. It cleaves extremely well and is widely used for fencing, gates, sticks and poles. It makes good stick furniture; it also turns well. There are several specialist uses, such as walking sticks, handles and rims for trugs, pale fencing, fruit props and hop poles.



Fig. 1.21 Plantation sweet chestnut. (Photo: Mike Carswell)

Willows (Salix sp.)

There are several types of willow. They all prefer wet soils and generally coppice very well; only the white and crack willows make large timber trees. The timber is not durable outside and has a reputation as being not very good for anything, except weaving baskets when grown as one-year-old withies. However, there are quite a few potential uses and the wood is light and versatile. It makes good yurt poles, rake and besom handles, clothes and tent pegs and has been used as thatching wood; of course, it is the traditional species used for cricket bats.

Yew (Taxus baccata)

A hard wood with beautiful rich red heartwood; it looks most effective when turned in such a way that you get the contrast between the red heart and the creamy sap wood. Equally good planked for shelves and seats although you need to get lucky to obtain some large enough for planking.



Fig. 1.22 Yew wood freshly cut.



Fig. 1.23 Elder wand by Jonathan Ridgeon. (Photo: J Ridgeon)

Other shrubs and minor trees

There are many other species that you can use for a wide range of products if you come across them; in reality, some of these are hard to identify in the winter, and if you ask for them, very few people would be able to supply them. Box (*Buxus sempervirens*) is slow-growing and has a fine, dense, white grain; it has a long history of uses for items such as chess pieces and musical instruments. Elder (*Sambucus nigra*) is a common shrub that has an easily

hollowed pith, so it is popular for making whistles; known as the species that produces the most powerful magic wand, but you need special powers yourself to make such a wand.

Spindle (*Euonymus europaeus*) wood can be used for making spindles – these are used for spinning wool or other fibres into a thread. You will be very lucky indeed to find any juniper wood (*Juniperus communis*); try asking a tree surgeon for wood from garden varieties of this species. Its wood is light, tough and fragrant and is sometimes used for the inside of small boxes in a similar way to cedar. Its wood is normally small dimension and so could be used for items such as napkin rings and drinks coasters. Alder buckthorn (*Frangula alnus*) was prized as a charcoal wood, but is hard and so was used for such things as shoe lasts.

A note on use of exotic species

Sometimes you will see timbers that you have never heard of being advertised. This is particularly so in publications and on websites selling woods for turning or marquetry. It is often tempting to try a new wood – something that has a more exciting colour or unusual grain or characteristic – after all, some of our common timbers in the British Isles can be a bit plain. However, many of these timbers are from exotic, even tropical places and may be of unknown origin. It is common knowledge that many of these forests are under threat and it would be wrong to support their destruction by buying even small quantities.

If you are tempted or feel your piece really needs something different, then look for a mark of certification. This normally means that the timber being sold has been independently verified as being cut from a sustainably grown source. Most greenwood workers are not generally tempted by these offers and stick with the woods they know. Some even make the most of knowing exactly where the wood came from and use this as part of their marketing and sustainable credentials for their business.

Chapter 2

The Greenwood Workshop

A PLACE TO WORK

Finding the right workspace can seem an insurmountable problem. We can all dream of owning the perfect wood with a rustic shelter and fire-pit with kettle singing. The reality can of course vary from a cramped back yard to having a pole lathe in the spare bedroom. Whatever your circumstances, do not let the shortcomings of your set-up hold you back.

What do you need? A pole lathe may be a top priority for some, though not always a necessity, and with the bungee cord set-up the footprint is just about 4ft × 3ft or 12ft² (1.2m²). A small shelter will keep you dry and make it so much more likely that you will work when the weather is bad. Likewise, the shave horse takes up space when in use but it can be dismantled and stored quite compactly. A chunky chopping block at a good height for working is essential, consisting of a simple round log cut to length, or, if working on an uneven surface, a three-legged stool will be much more stable.



Fig. 2.1 A three-legged chopping block from a natural ash fork.

Add to this a cupboard or chest for tools and perhaps a workbench with vice for specific tasks, and you can still fit all this and a small family car into a

standard garage. If you have an outside space, then you will need some sort of shelter; [Chapter 7](#) has a few ideas for greenwood shelters, though a lot can be achieved with just a cheap tarp and a rope to sling it over. This chapter takes a look at the tools and devices that you are likely to need, whether entering greenwood working as a business, or taking part in it as a hobby.



Fig. 2.2 Essential workshop kit.



Fig. 2.3 (Above) A collection of pole-driven pole lathes.

DEVICES

Pole Lathe

There are two types of pole lathe. The more traditional version is a long green pole, as used by the bodgers who worked in the woods, this may have been a growing sapling, rooted to the ground and simply bent over for the job.



Fig. 2.4 (Right) Bungee-driven pole lathe.

The other not-so-traditional version consists of two shorter poles attached to the lathe itself and is much more economic with space. In both cases, the turning power is provided by the turner's leg and the return stroke by the spring in the pole, but in the upright version, this is enhanced with the bungee shock cord placed between the two poles. If you work in a confined workshop environment, your only choice may be to use this second type.

The lathe works by the treadle being pushed down by your leg, with the cord wound around the piece of work, turning it; the operator uses gouges and chisels at this moment to take wood off the revolving piece; the chisel is then removed while the spring of the pole (or bungee) turns the piece back to the beginning; a rhythmic motion is soon built up and simple pieces can be turned quickly in a remarkably efficient and satisfying way.

Easy options include buying a pole-lathe kit or going on a course to make your own lathe. However, if you have some basic woodworking skills and

common tools, this is not a difficult project and most people will be able to complete their own pole lathe with some bought-in materials.

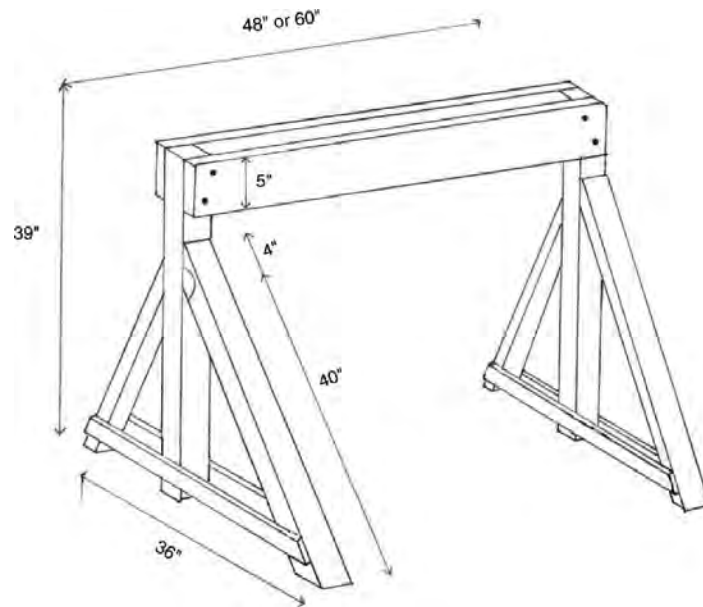


Fig. 2.5 Diagram of the bed of a pole lathe with A-frame legs.

Make your own pole lathe

The frame of the pole lathe will usually be made with sawn timber. To make the end A-frames, you will need 20ft (6m) of 3×2 in unplanned softwood and another 12ft of 1.5×1 in (4×2.5 cm). The sides of the A-frame should be cut to 39in (1m); you can lay out the materials on a flat surface to measure up properly and make the lathe a little taller or shorter, according to your height. The bed of the lathe is made up of two pieces of timber that connect the two end frames and between which the heads fit. This can be four or five feet long depending on the length of the pieces that you want to turn. Drill the holes on the upright of the end frame and the bed to be sure they will all meet up during assembly. Now screw the A-frames together. The A-frames should be bolted to the bed – two bolts at each end; this is essential if you plan to dismantle the lathe for transport.

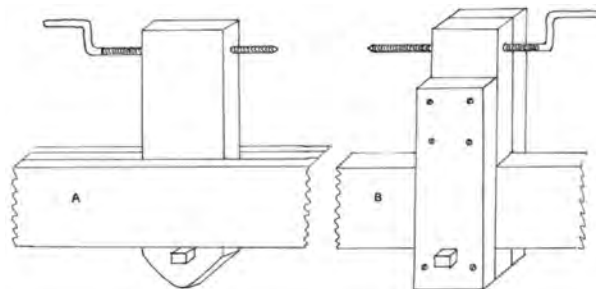


Fig. 2.6 Two different types of heads for pole lathes.

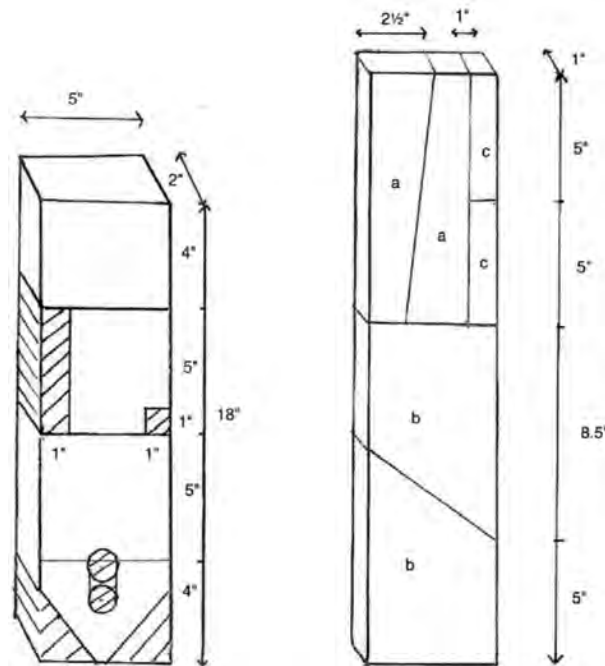


Fig. 2.7 Cutting guide for your heads taken from Mike Abbott's Green Woodwork (Abbott, 1989).

The heads (A in figure 2.6) are normally made of a durable hardwood – ash or beech is ideal, available from your local sawmill or timber merchant. You will need 18in of 5×2 in (13×5 cm) kiln-dried, planed timber to make the heads; this needs cutting as shown in Figure 2.7 – the hatching shows where wood is to be removed. These take the pointed metal centres that hold the wood during turning; one of these centres may be fixed, but having one as an adjustable crank adds fine adjustment and flexibility; both heads should move smoothly along the bed. You will also need a piece of wood 5×1 in (12.7×2.5 cm) that should be cut as shown in the diagram. This will provide pieces 'a' which are the tapered wedges to hold the head firm on the bed, pieces 'b' which will slot into the recess in the head and form the tool rest support, and pieces 'c' which will slot into the other side of the head and provide stability.



Fig. 2.8a and 2.8b Two views of how the crank fits into the head.



Fig. 2.9 The pole lathe 2000 in action.

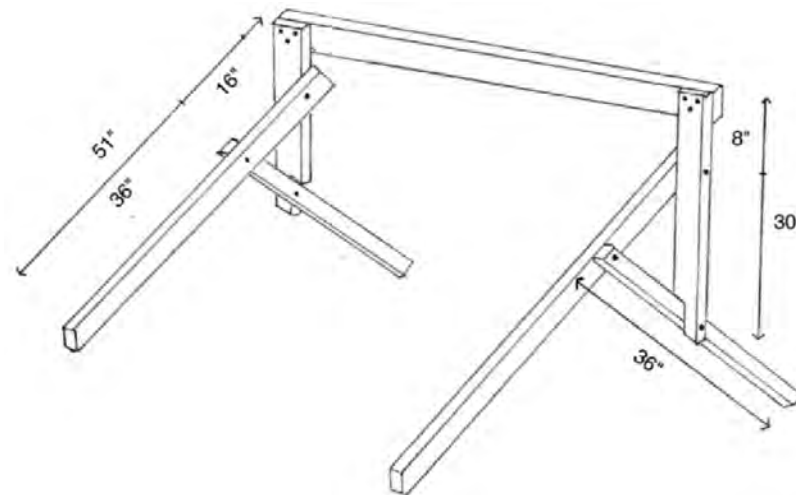


Fig. 2.10 The basic frame of the pole lathe 2000.

Once moved to the right position for the length of wood you are turning, the heads are wedged firmly in place, so you need to fashion a wedge for each one out of piece 'a'; just round off the edges so that they will fit snugly into the oval hole in the head. You will also need a tool rest; any material will do as long as it is comfortable and stable and gives you a firm position from which to turn – an ash pole shaved into an almost triangular cross-section works well. The tool rest should ideally be at the same height as the metal centres. The centres and threaded crank can be purchased ready-made or made by your local blacksmith.

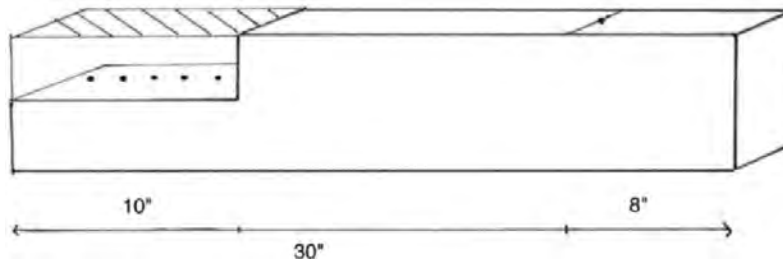


Fig. 2.11 Detail of the vertical beam on the pole lathe 2000.

An alternative pole lathe frame is one dubbed ‘The 2000’ by its designer, Mike Abbott, and is much more easy to fold down and transport (Abbott, 2002).

This uses a single beam for the bed and will need a different design of heads marked B in Figure 2.6. It can be made adjustable for height.

The timber is all sawn soft wood – the long legs 51in (135cm), the short legs 36in (90cm) and the adjustable vertical leg 30in (75cm). This has a series of holes drilled in it to adjust the height.

The treadle consists of a piece of board that the lathe operator stands on, to which an A-frame is attached with hinges. The height of the treadle is important, as you want it to help your leg generate the power that turns the lathe. Fix the footrest at a height to suit your posture – it can easily be altered later. The whole treadle can be made from sawn softwood but a greenwood worker should be able to source a naturally forked piece for the A-frame.

The treadle needs to be attached to the platform you stand on by two pieces of leather – this gives the sideways flexibility that a metal hinge won’t give. Batten the leather hinge with a thin piece of ply, steel plate or a large washer to stop it working free. The top of the treadle and the pole (or bungee) is connected with good quality 4mm cord; attach the cord with plenty to spare at the treadle end to allow for making adjustments; this is done by simply winding more or less cord around the end of the treadle. The cord will probably fray after some use where it wraps around the turned work.

If you have the space to use a long, thin pole, the power for your lathe comes from its springy quality; almost any species works well that has been cut green and stored undercover so that it does not go brittle. The pole should be 15–20ft long (4.5–6m) and be 3–4in (7.5–10cm) diameter at its base, with only

a slight taper if possible; a clean, straight pole is ideal but it doesn't have to be perfect. Fix the pole to the ground using a robust stake and lash the pole to it. If you are in a woodland situation, you can use an existing sapling, or a pole lashed to something else such as a fence post or tree stump.

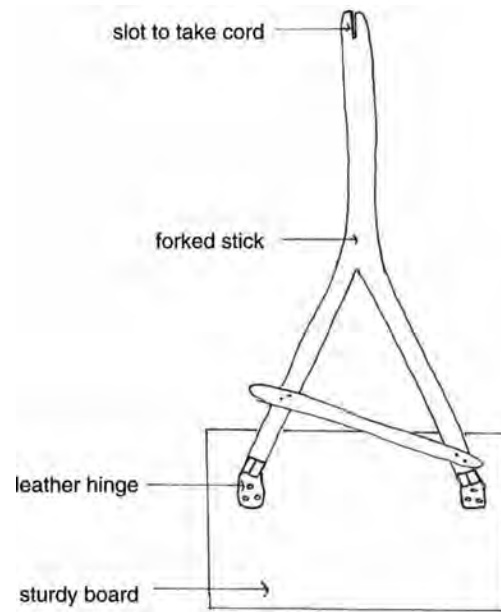


Fig. 2.12 The treadle.



Fig. 2.13 Detail of the end of the treadle.



Be sure to make a firm anchor – if it pops out of the ground, not only will it give you quite a shock but it could be dangerous. Prop the pole with two forked progs and ensure they are positioned so that the end of the pole is far enough above your head; tie the pole to these as well. The commonest mistake to make is not to have the pole at a sufficiently high angle, meaning that when the turning commences, the end of the pole comes down perilously close to the top of your head. A pole at a higher angle will be safer and give you more turning power.

If you are making the bungee-powered version, fix the two rustic poles (about 1.5in diameter (40mm)) to the side of each A-frame, threading them through the bracing of each end frame; these should extend about 36in (90cm) above the lathe bed. Tie the bungee to the top of one pole, thread it through a loop of the turning cord and then tie the bungee to the other pole. The cord should pass down from the bungee on the far side of the bed to the treadle.



Fig. 2.14 Using your lathe to turn wood.

However your pole lathe is powered, it should be solid and free from movement when in use. If it wobbles, you may need to peg down the lathe itself.

There are plenty of courses that teach the basics of pole-lathe turning, and the Association of Polelathe Turners is a superb source of advice and help. There are just a few simple things to remember when starting out (*see [box](#)*).

Becoming competent at turning does not take too long and using a pole lathe can be rather addictive; the rhythm of the treadle can be therapeutic, relaxing and quite spiritual.

TIPS FOR TURNING

- Cut with the grain, going downhill (from short grain to long grain) – this enables a smooth finish and makes cutting easy.
- The bevel of the gouge or chisel should be at the correct angle – too shallow, and it won't cut at all – too steep and the tool will dig in. By experimenting with a variety of gouges and chisels, you'll understand the right angle for each with a little practice.
- Keep the tool rest as close as is practical to the work; this will ensure your firm grip gives good control and reduces the possibility of the tool chattering.
- Keep your tools sharp and go on a course if you are not sure how to keep a good edge.

The shave horse

The shave horse is the ubiquitous sit-upon device that is indispensable. There are many varieties of shave horse, some according to region and some according to trade; in some areas, the shave horse is called a mare. The basis of a shave horse is that your feet operate a vice that grips your work, allowing you to shave it to the correct dimensions with a drawknife. This is such a basic item that it is unlikely you'll be able to manage without one for long if you are planning to do any form of greenwood working. There are two fundamental types – the English rustic style with a turned vice head, and the dumb-head style. It is thought that the dumbhead style is a more ancient design and this is more flexible for use with long pieces of work as these don't have to be threaded through the vice head; it is generally a more robust and heavier horse.



Fig. 2.15 Using a dumbhead shave horse. (Photo: Victor Middleton)

You can purchase a shave horse or you can make your own, using several important greenwood working techniques. Making an English rustic style shave horse is a useful exercise as part of your introduction to these skills; there are courses that will give you well-structured tuition in the basic greenwood working skills – and you will come away with your own shave horse. In this section we are going to show you the basics of the English rustic style shave horse construction; the more complex dumb-head style is a project for another day.

The body is the central piece of wood that you sit on, which acts as the pivot from which the vice works, and is the first item you need to source. A simple but substantial piece of sawn softwood would be adequate but a sawn or cleft hardwood log is much more authentic, more pleasing to the eye and will be more robust and probably last longer. It is useful if your horse is portable so that you can take it apart and move it from wood to wood, yard to yard or course to course. A body made from ash, alder or sycamore is ideal, but any species will be fine as long as it is large enough. Cleave your log along its centre to create the flat surface upon which you will sit. The beam tends to be narrower at the head end and wider at the end where you sit. The horse will be much more comfortable to sit on if you shape this end. You can dish the seat a little and take the sharp 90-degree angle off the sides of the piece to improve the comfort. Tidy and shape the body with an axe and draw knife to make it look good and to remove all the splinters.

Most shave horses have three legs for stability on uneven surfaces but you can add an extra one if you like. If you use three, there should be two at the sitting end and one at the other. You can turn the legs on a pole lathe or they can be shaved with a drawknife; they need to be robust enough to take your weight every day. Each leg should have a tenon at one end ready to fit into the drilled mortices underneath the body. This tenon is best made with a drawknife and spoke shave so the tapered tenon fits tightly into its mortice. Carefully work out the angle of the leg before you drill the hole. The legs often go right through the beam but if you allow them to protrude, they should be sawn flush with the top of the shave horse body.

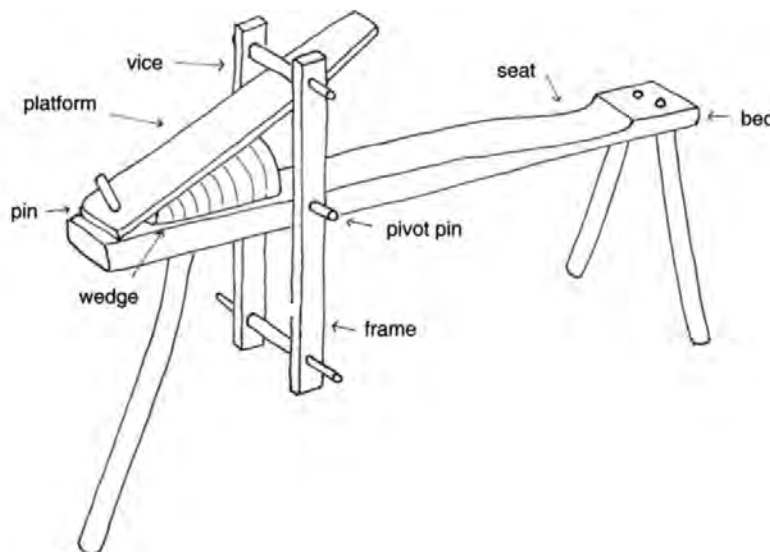


Fig. 2.16 A basic shave horse.

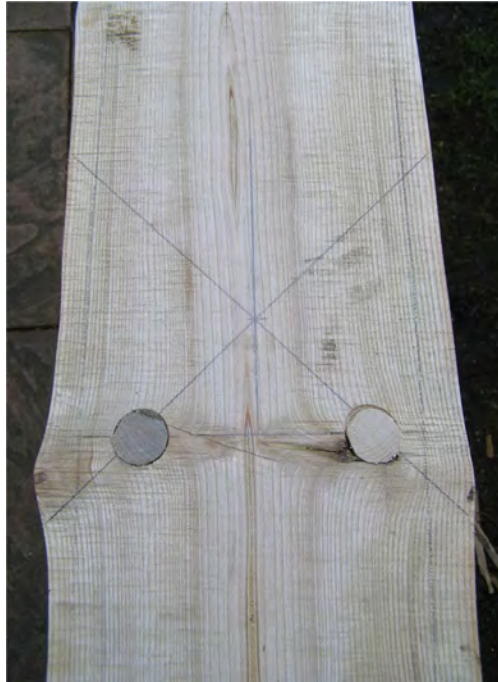


Fig. 2.17 Draw pencil lines to find the centre of the body and the angles for the legs.

The arms of the vice are normally made from a cleft piece of roundwood, using each half as the mirror image of the other; ash is a good species to use for this, maximizing its characteristic strength and resilience. The two vice arms are joined together in three places, and so you will need to drill three holes through each arm. The middle hole should be aligned with a hole drilled right through the centre of the body; this can be made adjustable by drilling two holes.

Before drilling any holes, offer up the vice arms to the shave horse body, if possible, while sitting on it. The grip of the vice will be stronger the closer to the ground it ends. However, the exact placement of the central hole and length of the vice arms will depend on how long your legs are. Once you are satisfied with the dimensions, you can drill the central hole. The second hole should be at the foot end of the vice and this will be the part you put pressure on with your feet. It is best to clamp the two arms together and then drill the holes to ensure they are at the same place on each arm.

If you have already made a pole lathe or have access to one now is the time to perfect your turning. You will need three turned pieces – the one at the

bottom for your feet must be of strong wood like oak and stick out by at least 4in (10cm) either side for your feet. The central one will allow the frame to pivot so should be smooth and of even thickness to pass through the body of the shave horse. The final piece is for the top, and this piece will grip your work; this is normally shaped with one flat side that will face your work and grip it hard; this will give you more room to grip thicker pieces of wood. Most of these vice grips have a notch carved in them – this allows a greater variety of wood widths to be accommodated and also grips round wood better.

It is usual for your work piece to rest on a plank, forming a ramp; this need only be a simple board about 6in wide by 24in long (15 × 60cm), which is adjustable according to the size of the piece being shaved. This is attached to the horse by a peg that goes through a hole drilled at the end of the plank and into another hole, drilled in the body; a simple hazel or ash peg works well. This results in a firm but flexible attachment. A wedge placed under the plank gives further flexibility and enables changes to the grip according to the size of the piece being worked.

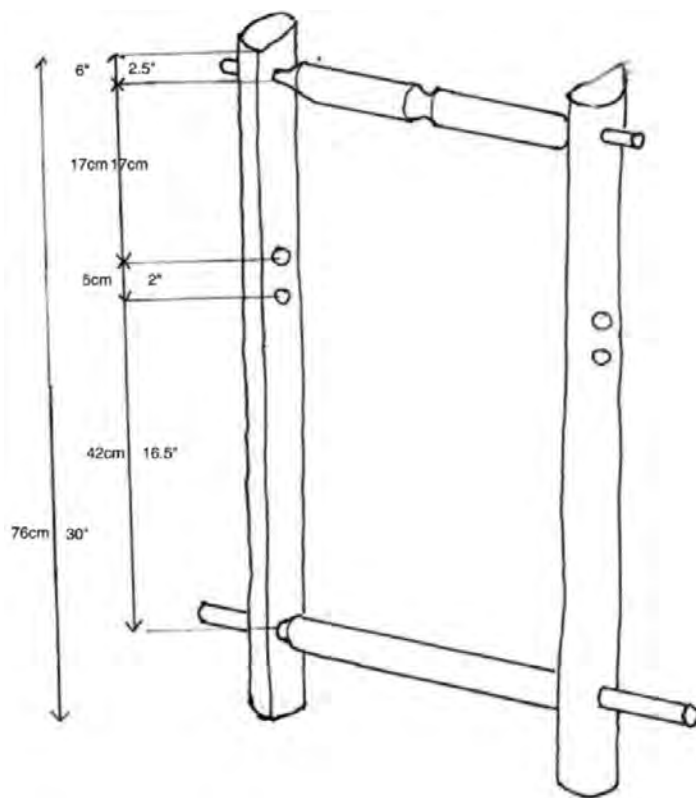


Fig. 2.18 The arms of the vice with two holes for the pivot pin so that it can be adjusted for height.



Fig. 2.19 Ensure the shave horse is the right proportions for the end user.

Clamps, breaks and jigs

Cleaving breaks

These come in all shapes and sizes but the most basic consists of two posts set in the ground with two cross members – one horizontal and one set at a slight angle so that there is a variable gap between the two through which the wood to be worked is held.

Use a tough wood like oak heartwood or sweet chestnut for a long-lasting break and use coach bolts to fix cross members securely. An added refinement is to sink a third post in the ground to make an equal triangle to the first two; it should be just the right height to rest under tension the wood you are working on, thereby freeing your hands completely to use a drawknife to shape the wood.

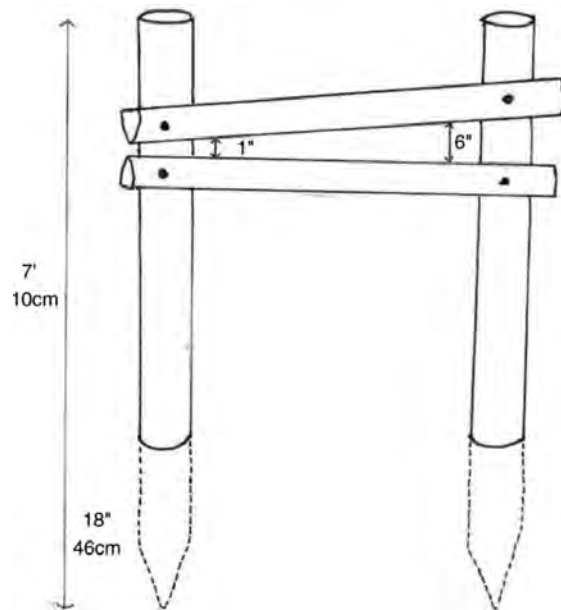


Fig. 2.20 The cleaving break dimensions.

The cleaving break can be used as a freestanding and portable device (never quite as solid as one fixed to the ground) but exceptionally useful when your workshop moves or you offer courses at different sites.

The three main legs are the same as the fixed break but are joined and braced with extra horizontals and diagonals. The one in [Fig. 2.22](#) includes a fourth leg that prevents the break from tipping over when you exert leverage pressure on the wood that you are working. This leg should be easy to remove for transportation.



Fig. 2.21 Cleaving break in action.



Fig. 2.22 A cleaving break with an extra post allowing the wood to be held under tension.

A-frame break

This break is handy and portable but not as stable when you need to put a lot of downward pressure on the wood to be cleft.



Fig. 2.23 A portable break made by Sam Ansell.



Fig. 2.24 A portable A-frame break.

Peeling horse

Peeling oak usually is done within the wood, as you want to peel the bark off within the day. So your peeling horses will be set up close to the felling site to minimize handling. The simplest form of this is two posts pointed and driven into the ground at an angle so that they cross at hip height. They are then lashed together with baler twine. A small refinement would be to shape the

wood so that it fits closely in a half lapped joint before binding or indeed a swift drill hole and a coachbolt would hold it very steady. A second horse is set up some distance from the first so that the wood to be peeled is at a perfect working height. The optimum distance between the horses will be determined by the lengths of oak that you are peeling.



Fig. 2.25 Twiggy using the peeling horse.

Bending frames and jigs

The greenwood crafts that involve steaming or boiling will use a bending frame or jig unique to each product to hold the wood while it dries and sets to shape; sometimes even fresh sappy wood is left to set in a jig.



Fig. 2.26 Chair parts (back rails) left to set in a jig.



Fig. 2.27 The back legs of a chair clamped to a jig.

TOOLS

Some tools are ubiquitous and useful in many crafts while others are very specialist. We have detailed aspects of most of the traditional greenwood working tools, but not the more formal joiner's workshop tools such as set

squares, callipers and cabinet scrapers, although you may find these useful as well. We are not going to even mention the larger machinery such as planers, thicknessers and sanders.

It is possible to fabricate some tools yourself, but this is a skill that is beyond the time and knowledge resources of most people. It is easy to spend a great deal of money on handtools and so choosing them deserves careful consideration. Asking someone with more experience may seem like a good idea but some people get attached to a particular make of tool and you may receive a lot of conflicting advice which is sometimes strongly influenced by their personal views. If you are just setting out on the greenwood working road, it is sensible to search for good value tools at auctions and car boot sales; you will probably still have to pay more for the better quality tools, but it makes sense not to pay too much while you are getting to know what works for you and what tools you really need.

Edge tools

Billhooks

The billhook remains one of the staple tools for a greenwood worker. It is used traditionally in the wood for cutting coppice, but in the workshop it is used for dressing out rods and for riving – particularly for hazel. For workshop use, a small billhook is likely to be more useful, and a double-bladed one is not ideal, as it cannot be struck on its top with a mallet. Many different billhook designs have developed over the centuries, mostly on a regional basis, and sometimes based on towns within counties; the various shapes and sizes developed to meet the use of different trades and individual wood worker's requirements and personal preferences. A billhook is the essential tool for dressing out hazel. The smaller hooks are frequently used to split hazel for hurdle or spar making and may be known as spar hooks. Many greenwood craft techniques can be carried out with an all-round type of billhook, which is likely to have a medium-sized hook and a long, flat blade that is easy to sharpen. When you develop different products and experiment with riving techniques, then you might want to purchase some hooks with different patterns and weights.



Fig. 2.28 A Devon-style billhook made by Morris of Dunsford, Devon.

Froes

The other tool that is essential for cleaving is the froe. These also come in a variety of sizes and weights; the right one for a given job will depend on the size of wood being cleft; small ones are normally easier to use and rather more versatile in their uses. If your work involves cleaving small dimension clean chestnut for example, a small, light froe will be great (such as those made by Ray Iles). If you are cleaving larger material, perhaps oak for shingles, then you might wish to use a more heavyweight froe such as a Muller. When a froe is being used to cleave a piece of wood, it obviously needs to be hit with something to get the blade to bite into the wood. It is best not to use a metal hammer. This will soon damage the top of the froe, causes immense vibration in your hands and arm, and can chip the steel causing tiny fragments to fly off from time to time, which is clearly extremely dangerous, so a wooden mallet is definitely the preferred option (see later section).



Fig. 2.29 Well-used shake-making froe and mallet.

Froes don't have to be very sharp as they are not a cutting edge tool; they are for splitting and levering, using the natural tendency of some woods to split along the grain. The strength of the handle is important – it needs to be robust enough to deal with the firm pressure sometimes used to get wood to split. Most new froes come with a handle but you can make your own handle quite easily. Because of the frequent vibration when using the tool, caused by a great deal of whacking with a mallet, the handle often works loose. Green woodworker and specialist tool supplier, Maurice Pyle (*see Useful Addresses*) has recently developed a type of froe, quite common in Scandinavia, with a handle that is firmly bolted to the blade; it is a robust tool and with the handle reassuringly fixed in place it can't come loose.



Fig. 2.30 Woodsmith's fixed-handle froe.

Axes

To many people, an axe is a thing of yesteryear – of the olden-days – a thing of legend, rather like a longbow; they imagine an axe as something that Robin Hood used. Whole books have been written about axes, and there is, indeed, a lot to learn about them. As the main concern of this book is greenwood craft, we are not going to discuss some of the axes such as felling, splitting, snedding or throwing axes, all of which have their uses but generally not in greenwood work.

In green woodworking, axes are usually used for reducing the size of raw materials during the middle stages of preparing a product. The most useful will either be a side-axe or a carving axe. A side axe has only one sharpening bevel on the blade, that is, one side is completely flat from the bit right back to the poll; this means it is designed for use with one hand and usually has a short handle; weight varies between 3–5lbs (0.9–2.3kg). The blade is wide, making for a long sharp edge. Having a single bevel means that they are either right- or left-handed. Side axes are used for reducing cleft pieces down to the right size and proportion. Often, the axe is held right up close to the head, and this technique can be used for surprisingly fine work. The carving axe is forged centrally like most axes but is ground with just a single bevel; like a side axe, the single bevel allows a lower angle of attack to the work piece and far greater

accuracy. The large carving axe (from Gransfors Bruks) is the tool of preference for many as the long, backwards sloping bit slices wood very efficiently and is perfect for trimming pole-lathe billets and shaping the outside of bowl blanks.



Fig. 2.31 Wetterlings side-axe.

As with many other tools, craft workers get attached to their axe, and quality axes with a respected maker's name on the blade are highly prized. Older side axes are often bought and sold for more than £100. There are other types of axe that are useful in greenwood working, which are relatively light and not too expensive. These include the so-called wildlife, hunter's and carpenter's axes. You really need to have a go with these to find out which weight, handle and head-design suits you. It is very important to purchase a sheath for the head – this is normally made of thick leather with a fastener. This protects you when carrying it, but it also protects the edge and stops it being damaged during transport in your tool-box. A sheath helps to keep the blade sharp and also reduces the chance of the sharp edge getting a deep nick, which takes a lot of time to remove.



Fig. 2.32 Gransfors Bruks carving axe.

Drawknives

Drawknives also come in a variety of sizes and designs, and again, users get attached to their preferred tool. These are used either sitting on a shave horse or standing at a break used to hold the wood. A two-handed tool with a handle at each side and the blade in the middle, it is used by drawing the blade towards you to remove material from the piece you are working on; it can be used to remove quite large chunks or for slower, fairly fine, controlled work. The handles are either long or knob-shaped. Depending on how you use the knife, the blade is straight or slightly concave or convex; there are designs with a curved blade for certain uses. Blades usually have only one bevel.

Drawknives with handles that are angled only a few degrees off the same plane as the blade can be used bevel up or bevel down, but you'll develop your own preference according to the tool you own and your own technique. Drawknives with handles that are not angled on the same plane as the blade will normally work bevel down. Don't be surprised if you find an old drawknife that doesn't obey any of the above rules!



Fig. 2.33 Drawknives and a spoke shave at the Gray Nicolls cricket bat workshop.

Adzes

If there is any tool that takes patience and practice to use effectively, then it is the adze. This is the tool that is traditionally used to shape products such as beams for timber framing and chair bottoms. Using an adze gives products a unique finish – smooth but with shallow scallops. If you look carefully at the timber framing in an old house, much of this woodwork will be finished with an adze. Traditional adzes were used standing up with the piece worked being on the floor. Chair-making and bowl-carving adzes have a more curved blade making for more of a gouge-like tool, useful for hollowing the chair seat, and short-handled adzes with a more exaggerated gouge are used on smaller pieces and finer work such as bowl carving.

The technique for using a hollowing adze can involve swinging the very sharp blade towards you, normally towards the gap between your feet as you stand above the piece of work. An adze injury on the shin can be nasty – most people protect their shins with leather gaiters or thick layers of a more readily available material such as hessian sacking. The trick with being able to use the adze well is to find the right stance, the right way to hold the tool, and knowing

the angle of the blade and the way it will work the wood; you may need to find a way of anchoring or gripping the piece of wood you are working on, so it stays where you want it.



Fig. 2.34 Using an adze with lower leg protection.

Some small adze-shaped tools are used for cleaving – even for such fine riving as hazel, and for use for long periods of time, these need to be light.

Knives

A sharp knife is indispensable. One of the most popular knives is the wooden-handled folding French Opinel make, available in a range of sizes – these fold away like a like a traditional penknife. The blade can be made to stay open by twisting a ferule that stops the blade closing. These aren't designed as carving or whittling tools, which have a shorter, fixed blade. Many people use *Frost* carving knives for whittling, but Ray Iles also makes knives; Ben Orford has a growing reputation for producing tough tools that have that certain quality which expert greenwood workers seek. The Woodsmith's Store supplies carving knife sets, which include a slip stone for sharpening and a tool roll. The Swedish knife makers have a deserved reputation and makers include Mora, Svante Djarv, Hans Karlsson and Bo Helgesson. These knives, made by small, family companies, are more expensive but have an exquisite and durable quality and have a hand-made beauty to them that anyone can appreciate.



Fig. 2.35 A selection of whittling knives.

Stock knives

A stock (or bench) knife is one with a long handle at one end and a hook at the other; the hook is normally attached to a loop driven into a large chopping block. The long handle enables the user to exert a great deal of pressure on the wood being worked, allowing one cut where an axe might take many blows to remove the same amount of wood. Second-hand stock knives can still be found, but they are becoming much rarer now as their uses are quite specialized. If you plan to make clog bottoms or tent pegs and other specially shaped pieces such as lathes in building reconstruction then you will need a stock knife. Some have curved blades and are designed specifically for a particular trade; clog making in particular used curved blade. If you want, you can use a stock knife to remove material from a piece just like a side-axe, only in a more considered and accurate way.



Fig. 2.36 Crook knives (left to right) Svante Djarv, Svante Djarv, Ben Orford, Bo Helgesson (long-handled knife), Hans Karlsson, Ray Iles, Ray Iles, Frost.



Fig. 2.37 Stock knife mounted on a low bench for maximum leverage.

Spoke shaves and travishers

Spoke shaves are used for removing small amounts of material at a time to give a finer finish than you could otherwise get on items such as fine chairs, long-bows and, needless to say, the spokes of wooden wheels. These tools are usually made of steel and cheap ones are readily available; however, the low blade angle of wooden spokeshaves produces far better results. If you want a

well-made new spoke shave with a quality blade, you'll need more than £60.

A travisher is a type of spoke shave that has a more concave blade – this is used following adzing to make chair bottoms into the right shape. This is a versatile tool and one that becomes addictive to use for shaping wood; again, a new, good quality one costs about £70 but will be a valued member of your toolbox for life.



Fig. 2.38 Spoke shave.

Chisels

There are two basic types of chisels and gouges. Wood-turning chisels are used on a lathe – they have longer handles. Carving chisels and gouges are used for carving items such as bowls; some are designed to be struck with a wooden mallet but most are designed for pushing with hand pressure only. All chisels tend to have a hard shoulder on the tang to prevent the blade being driven into the handle. Some larger carving chisels and gouges can be used on the pole lathe.



Fig. 2.39 Sharp gouge.

First, let us look at turning chisels for the pole lathe. Because of the popularity of turning wood on electric lathes, turning chisels are readily available and come in a wide variety of sizes and varying quality. For a beginner, a basic set of chisels and gouges is all that should be needed. This is likely to include a roughing out gouge, a spindle gouge, a broad, flat chisel and a skew chisel. It is tempting to go on the Internet and buy the cheapest set you can find; however this is a route to frustration – the steel is likely to be poor quality and difficult to sharpen. Far better to attend a course, find out exactly what you need, discuss this with an expert, and then buy quality tools from a recognized seller; they may cost a bit more but will last for a lifetime of turning. Even if you can only afford to build your collection of chisels one at a time over months or years, this is better than trying to work with sub-standard tools.

The tools needed for carving are a little different, but you can apply similar guidance. A basic set should include gouges of several sizes but need not be more complicated than that. If you decide you wish to make products that are more finely finished or more detailed, then you will need other chisels including some micro chisels and small v-gouges, used for fine detail and lettering.



Fig. 2.40 Top – modern tenon cutter; bottom – wooden-bodied rounder.

Stail engines, rounders and tenon-cutters

A stail engine is used to make round (cylindrical), gently tapered handles such as those used for rakes (a stail is a handle). It has a handle on each side and is used hand over hand, so that the blade set into the centre of the engine takes a shaving off the handle until it is round. Traditional wooden-bodied rounders have a very similar configuration and are used in the same way; however, the hole for the wood to go into on the rounder is tapered and so this machine can't be used all along the handle. Typically, rounders are used for the ends of chair legs, stretchers, ladder rungs, etc. Rounders are also referred to as rotary planes. A modern version of a tool to create precisely sized tenons is a tenon cutter; this fits onto a hand-held brace or electric drill and is a very effective way of rounding the end of a piece of work to a specified dimension. A traditional wooden-bodied, two-handled rounder costs about £35, and although a modern tenon cutter comes in at £80–100, it will save lots of time in the workshop.

Brace and bit

The greenwood worker can't really be without a brace and a selection of bits in their workshop. These are used for drilling holes in wood – for example, to take the tenons you have made with your rounder or tenon cutter. Of course, an electric drill will do the job faster, but many people find this is somewhat less satisfying than using hand tools. Good value braces can be readily

sourced; bits will become worn over time and it is always good to have a selection of new, sharp auger bits at your disposal.

Saws

There are many different saw types but the most useful is probably a bowsaw (sometimes known as a ‘bushman’). Many people use a pruning saw – these are quite convenient as they often fold up and some are small enough for a coat pocket. You will quickly develop a preference, depending on what particular crafts and woods you are using. If you use a bowsaw, buy some spare blades as they become blunt with use quite quickly and using a blunt blade becomes very frustrating. You may well also decide to purchase a traditional tenon saw for finer work in the workshop.

Sharpening stones

Keeping your edge tools sharp is a skill in itself; with the wide range of tools already described, you’ll need to know how to sharpen both double- and single-bevelled tools, straight and curved blades, as well as concave blades such as chisel gouges. A one-day course on tool care is well worth the money and time invested. As well as instructing on sharpening techniques, such a course will help you decide on which sharpening medium suits your needs. The choice can be bewildering for the beginner and there is a whole new terminology to learn: should you purchase a whetstone, a waterstone, oilstone or a diamond plate? All except the diamond stone are traditional and have a long history of use, and each has its own advantages and disadvantages. Most beginners will be quite satisfied with a canoe stone to sharpen most edge tools, with a smoother stone to take off the burr and hone the edge. Diamond stones are expensive but don’t break, stay flat, work very fast and will last a long time. Some stones have a coarse side and fine side – always finish with the fine side. Most stones require a little water, which helps the sharpening action, washing away the tiny particles blocking up the abrasive grit. Fine honing of an edge can be done with a strop, normally made of leather, to remove fine burrs and get a really sharp mirror finish.

If you have a lot of edge tools, you may in due course wish to invest in an electric grinding machine – the most respected make is a ‘Tormek’. These

revolve slowly in a trough of water and are used for grinding edges back onto damaged tools or for major re-sharpening work, perhaps where the bevel requires re-profiling; a basic model is about £300.

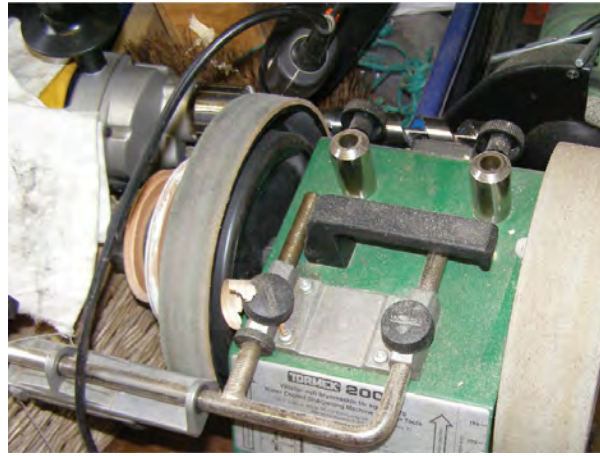


Fig. 2.41 Tormek grinding machine.

Other useful items

Wedges and cleaves

Wedges are useful for holding open pieces that are in the process of being cleaved. They can be metal but most people prefer to fashion a wooden wedge from waste material. This reduces the chance of an edge tool being accidentally damaged by contact with a metal wedge while you are working. A cleave is a small device used for producing three or even four clefts at once. They have to be made from a very hard wood to retain the cleaving edges – apple, box, hornbeam or holly are ideal.



Fig. 2.42 A cleave made of holly.

Such a device is quite capable of cleaving the softer woods and they are usually used for hazel or willow. A turned and sanded handle makes it easier on the hands. These very hard woods can also be used to make a device called a brake that resembles a clothes peg; the tight cleft between the two prongs can be used for de-barking and cleaning materials for weaving, such as the spruce roots used in birch bark pots, honeysuckle, bramble or willow.

Hammers, mallets, mauls, beetles and clubs

Every greenwood worker's workshop will have several implements for hitting bits of wood or tools! You will certainly need a standard metal hammer for nailing and a light wooden mallet for encouraging tenons into mortices; mallets can be purchased cheaply or made quite quickly. The harder the wood the mallet is made from, the longer it will last. Apple, elm or hornbeam are probably the best but oak or sweet chestnut are good too. Eventually, most mallets will delaminate and splinter, and this is when a new one can be made.



Fig. 2.43 Making a large mallet.

Choose a log about 15in (37cm) in length; its girth will depend on how heavy you want your mallet to be. Obviously, a bigger log will either result in a heavier mallet or a lot of extra work to reduce it to a smaller, lighter size. For

this job you are looking for a knotty piece of wood as the complex grain around a side branch will help prevent splitting. Make a cut with a bow saw right around the log to make a mallet head about 7in deep (18cm); the depth of the cut will depend on the size of your log; however, it is best not to cut too deep if you are uncertain. Then put the head-end of the mallet on your chopping block and begin removing the excess wood along the handle with a side or carving axe. This is a good project to practise your axe-carving techniques. Reduce the handle to a comfortable size to hold. You can use a drawknife to get a better finish and tidy up the end of the handle. Now remove the bark from the mallet head; if it's a bit too heavy, you can use the axe or drawknife to remove more material from the head. If you are doing a lot of cleaving, you will get used to making mallets on a regular basis and you will become practised at knowing which species and dimensions you prefer.

Wood carving requires a wooden mallet. You can make one, but unless you can get some really dense, hard wood, you may want to buy one; a beech or box wood mallet costs about £30. The best quality mallet heads have been made from the tropical hardwood *lignum vitae*, with its beautiful green-hued timber; however, this tree is now endangered, so it's best not to buy one. Some modern mallets now have an artificial urethane head which softens the sound as well as helping to reduce the vibration when being used all day.

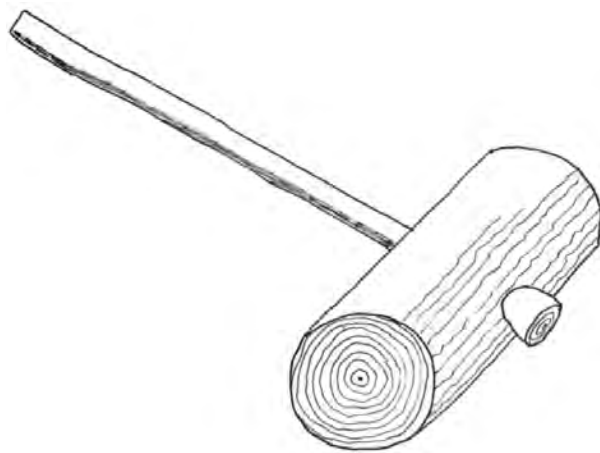


Fig. 2.44 A beetle using a knotty log and a separate handle.

A beetle or a maul often has a separate handle; again, a knotty log is ideal and should be drilled through with an auger bit at least 1¼in (3cm) and a sturdy shaft fitted, which would ideally be of cleft ash. If the maul is drilled all the way through, the handle can be shaped with a flange at the end to stop the

head flying off.

Peeling irons

There is still a small demand for oak bark which is used for tanning hides, i.e. making leather. There is a tannery in Devon that will take bark, but you need to be situated in Devon or Cumbria, or somewhere in between, in order to be on the route for the wagon that collects it. There is nothing stopping you developing an aspect of your business or hobby that will use your own tan bark, which involves using bark you have peeled for your own tanning side-line, or persuading a tanning business currently using chemicals to change to using bark.

Peeled oak makes lovely rustic garden furniture though, so you may wish to peel bark off oak in order to obtain some of these poles. New peeling irons can now be bought again and these tools are good quality and effective. If you're good at making things, a reasonable peeling iron can be made from a length of copper pipe. All a good peeling iron needs is a comfortable handle and a piece of metal with a shallow spoon-shaped end that gets under the bark and can lift it off the pole without gouging the pole or ripping the bark.



Fig. 2.45 A selection of bark peeling tools.

Tine-former

The tine-former is a labour-saving device mainly used to make the teeth in rake-making but it can also be used to make wooden pegs that need to be mass produced for other uses, such as during timber-framed building projects. Consisting of a metal tube bolted to a wooden block, the block must be prepared with a hole drilled underneath the former through which the tine exits. The tube has a relatively sharp top upon which your tine-blank is placed – this is hit hard with a mallet, which drives the wood through the former; the

excess wood remains on the top, while a ready-made tine drops out underneath.



Fig. 2.46 Dowel plate – an alternative to the tine-former, used to make tines or dowels.

Steamers

Steaming involves one of nature's serendipitous qualities. Wood is made up of fibres held together by lignin. Remarkably, lignin softens when it is heated up but it only softens enough to be manipulated in this way when it gets close to 100°C – this is the temperature of boiling water and of the steam that is produced. The cooling process helps the wood stay in its shape initially, followed by the drying process. A rough guide is that ash one inch thick needs about an hour in a steam box, and two inches, another hour. Two and a half inch oak has to stay in for four hours until it becomes pliant enough. In contrast, thinner ash needs only twenty to thirty minutes; with some experience, you will be able to look at and feel the plank to judge whether it is ready.

You could develop a green woodworking business that would never require the use of a steam box of any kind, but it is an important addition to the

workshop. A steam box is useful in so many crafts, and sometimes essential; steaming is used in basket making, chair making, walking stick making and in elements of others. If you want to have a go at steam-bending, you will either have to borrow someone else's steam box or make your own as there is no steam box available to purchase that we know of. Steaming is sometimes regarded as a bit of a dark art, but making your own steamer is not difficult. Most workshop steamers are rather Heath Robinson affairs with a good deal of individual invention about them.

The box should be a size to suit your products. A larger one will be able to take larger pieces of wood but will need more steam and therefore more power, so it's probably best to start off with something small. Steam boxes are normally long and narrow to accommodate long, thin bits of wood; your box could be nothing more than a piece of drain pipe, closed at both ends, with an inlet for the steam pipe and one end dedicated to load and unload the wood; this will obviously fill with hot steam rapidly and is an efficient, if rather small, box. For model making, you can even use a microwave oven, but in this case, the size of the materials used is obviously very limited.

It makes sense to use your shavings and waste wood to heat the water; this is entirely possible, but it takes time to light a fire in a hearth and get it hot enough to create steam. If you are preparing a fair quantity of pieces, it probably makes sense to have a sizeable boiler to fire a large steamer. A more convenient method, especially for small pieces or low numbers of pieces, is to use electricity via an element. Some small-scale steam boxes use a kettle as the source of steam; clearly you need an old one without a thermostat, otherwise it will keep cutting out. The steam is taken to the box through plastic pipes; the shorter the pipe, the better, as the steam will be hotter when it reaches the box; the pipe has holes punched in it along its length within the box for the steam to escape. On a small box, you can make a small hole and loosely insert a cork; if the box gets really hot, the cork will pop out as a kind of minor safety valve, letting you know that you can reduce the supply of steam a little.



Fig. 2.47 The interior of the steam box.

It's a good idea to have your steamer somewhere convenient, either within or adjacent to your workshop so that you can use the hot wood quickly before it cools too much. In the winter, this will also help to heat your workshop.

Larger boxes can be made of waterproofed plywood, or thick foam insulating material. One end should have a hinged door for loading – the door should be closed again quickly to keep the steam in and keep your pieces hot. It can also help to use a face plate that fits in this end; this is like a wooden grid, which separates individual pieces of wood and results in more even steaming. If you are steaming lots of pieces of wood, this also helps with organizing and noting how long each piece has been in the box.

If you are having a go at a small project, you'll only need your hands and a thick pair of gloves, and perhaps the simplest of formers to bend your material around. However, if you really get the steam-bending bug, you'll need all kinds of jig to help make the wood move. You will probably have to fabricate your own forms and jigs for the specific purpose of the job in-hand; these can be made from readily available materials and cheap softwood is fine. However, if you want to bend larger dimension wood, or perhaps oak instead of ash, you will probably need to use different techniques such as compression straps – thin steel bands which stretch as the wood is bent; you can also use a kind of

woven stainless steel mesh which is very flexible. In extreme cases you can use a block and tackle to force the wood to bend. You will need a plentiful supply of G-clamps to clamp the hot, damp wood to its form or jig. It's best to use some waste wood where any clamp has contact with your work to spread the pressure and avoid marks.



Fig. 2.48 Paul Girling's steambox with a record of what is being steamed written on the side.



Fig. 2.49 Swill basketmaker's boiler in use in the wood.

Some people prefer to boil wood to get it hot enough, and this is certainly the swill basket making tradition. In some ways, this is easier, but you will need a hook to fish out the pieces of wood from the boiling water.

It is important to remember that hot water and hot steam can scald – a thick pair of gloves or gauntlets is essential. Open fires in the workshop close to shavings and waste wood is not a good idea; finally, water and electricity do not mix well so if you need help in wiring up an element or converting an existing appliance into a steamer, then you should get an expert to assist and

make sure it is safe.

Now you should have all you need to make some, if not all, of the fabulous greenwood items that have been gathered together in this book.

Chapter 3

Treen and Turning

In this chapter, we look at the wide range of items that are made for the home using greenwood working techniques. These items are traditionally termed ‘treen’, defined as ‘small domestic wooden objects’ (*Concise Oxford Dictionary*, 2003). At one time, most people would have had wooden objects with which to prepare food, and from which to eat and drink.

These have almost entirely been replaced by crockery, plastic and metal with just a few survivors such as the rolling pin, chopping board and mass-produced wooden spoons. There are so many items that we wanted to include in this chapter, from butter knives to Viking cups, that we ran out of space to mention salt and pepper pots, egg cups, tankards, nutcrackers and many more.



Fig. 3.1 Turned bowl made by Steve Tomlin.

Bowls are something you see in craft and tourist shops all over the country, but with the right wood and a little knowledge, you can make your own turned bowls. We went to speak to one of the UK’s leading exponents of bowl turning, Robin Wood, to find out how he does it.

Turning is used in the production of many other items, and we’ll include quite an array in this chapter, featuring some of the work of Mark Allery from West Sussex and Maurice Pyle from Northumberland. Carving is a key

greenwood skill and we feature bowls by Steve Tomlin and Sue Swatridge, and finally James Mitchell's lovely hand-carved spoons. There are many fine greenwood producers in this field, each using their imagination and creative juices to design and fashion an array of useful and vernacular but beautiful and often unique items.

TREEN AND TURNING

In the kitchen

Rolling pins

A rolling pin is a very useful kitchen tool if you enjoy baking and making pastry. The rolling pin can be as long or short as you need it; short ones are easier as there is not so much to try to get straight. If the pin is not straight, it isn't a disaster, but if it's convex, your pastry will be thin in the middle, and if it's concave, there may be bits in the centre that are thicker than the outside. So, ideally, the rolling pin should have a straight edge; this is best obtained by frequently checking your piece of work with another straight edge, such as a steel ruler. As with so many of these projects, making a rolling pin is easy, but making a really good one takes plenty of practice, with some mistakes being made along the way.



Fig. 3.2 Carved trees.



Fig. 3.3 Well-labelled and competitively priced treen can be popular at shows as people are willing to buy small, good value items on impulse.

Any ornament obviously needs to be kept to the ends of the pin and these are normally quite plain objects: though if you pick the right piece of wood, it is possible to get some lovely patterns showing through. As with many kitchen utensils, the traditional wood for rolling pins is sycamore, as it doesn't taint foods; you could use beech or ash too. Once turned, slow drying is needed – if it dries too fast, the rolling pin could crack or become bent, and this is obviously not desirable as food will either get lodged in the cracks or the pin will not roll properly. The finish should be as fine as you can get it; if your wood is too dry, the surface may end up being quite rough and will need a lot of sanding. Once you are satisfied with a finish smooth enough to be easy to clean, a rub with light oil is all that's needed.

Spatulas

Modern spatulas are now often plastic and flexible at the flat end, but traditionally a spatula is simply a flat wooden implement. The term derives from the Latin word for a flat piece of wood – the word spade has the same derivation. The word spatula is known to have been used in English since 1525. Spatulas are essentially a variation on simple spoons. The basic shape can be made using the same techniques as the early stages of spoon making,

but spatulas are usually flat without the tick-shape of a spoon and a spatula can be made entirely on a shave horse with a drawknife.

The broad shoulders are characteristic of spatulas, and give them strength, but this is not essential. Remember to make a handle long enough to stir food in a deep pan; a spatula can be as long as 12in (30cm). A sharp carving knife can be used to make the finishing touches such as rounding of edges and perhaps some initials on the handle. Again, many woods can be used although those from trees that are known to be poisonous are usually avoided (even if any associated risk is negligible). Spatulas are probably best in ash, sycamore or beech.



Fig. 3.4 A range of spatulas.

Butter knives

Butter knives are a variation of the spatula. The butter knife should have a wide spreading blade and this is obviously much more important than the knife being especially sharp. The blank you use should be shorter than a spatula – perhaps only 6–8in (15–20cm) in length. Once the blank has been shaved to roughly the correct thickness with a drawknife, the final shaping should be carried out with a sharp knife – these are essentially carved items. Again, the handle should be comfortable to hold, with the neck kept rather thick, as the knife has to be quite strong. Beech is the ideal wood, but

sycamore, ash, lime and birch are all fine.



Fig. 3.5 These handy kitchen items are dubbed spoontulas by their maker Kath Morgan.



Fig. 3.6 Ripple birch butter knife from Finland.

Spurtles

Originating in Scotland, a spurtle (or spirtle) is traditionally used for stirring porridge. A spurtle can be very much your own design, but they tend to be plain with a ridge about a quarter or third of the way down the length to denote where the handle ends and the stirring end starts. The length is your preference but they are often 10–12in (20–30cm) long, with a diameter of about 1in (20–30mm). The handle may have some decoration and the business end is

normally slightly tapered. Most woods can be used, but sycamore and ash are ideal.

Goblets

There are not many people making wooden goblets using greenwood-working techniques. As with many wood turning projects, goblet-making is great fun to experiment with, although not necessarily for the beginner. So before you embark on a goblet-making project, your pole-lathe skills need to be fairly good and you will need a long-handled bowl turning chisel in your toolbox.



Fig. 3.7 Tony Morgan's goblets.

A goblet may be made from any wood, but something quite easy to turn is a good idea to begin with, such as ash, sycamore or birch. A goblet made from a harder, denser wood, such as oak, beech or a fruit wood is more difficult to achieve on a pole lathe.

The basic techniques and steps for making a goblet are similar to making a bowl. Normally goblets are slim, elegant pieces and so the wood you start with should be of appropriate proportions; however, if you want to make something more chunky, then again, the blank needs to be somewhat larger; a chunky goblet will probably be easier to make than a slim one, but this could pose problems later on with cracking.

Proportions are important – in general, the one third/two thirds rule is quite useful – if either the cup or stem make up two thirds of the height of the piece, this will generally be pleasing to the eye and most people would probably

chose these proportions. A cup that is half the height of the whole piece may well work but these are unlikely to ever be described as being elegant. It is a good idea to make the base wide enough to ensure the piece is stable when the cup is full of liquid.

Mount the wood on your lathe and clean up the rough shape. At this stage, you need to have an idea of how deep the cup will be and how long the stem will be. Turn the piece into the rough outline and desired shape and here you can begin the detail of any shapes on the stem. There are varying ideas about whether the inside of the cup should be cut first or whether the stem turned first. If you are cutting a piece with an elegant, slim stem, this is more likely to break when the inside is being worked. So, you may prefer to shape as much of the inside as you can before finishing the outside and stem and then parting the inside at the end.

The cup should be shaped from the top downwards; the inside walls may be straight and parallel to each other, or when your skills are more advanced, you can slope them inwards or flare slightly outwards. With lots of practice and the right piece of wood, the cup sides can be worked very thin so they become almost transparent; this effect is obviously not practical for use as a liquid-holding cup.

It is tempting, as a relative novice, to keep the cup walls thick, but this is much more likely to result in the cup cracking when it dries out. If the cup walls are thinner, the wood may change shape a little during drying but the chances of cracking are much reduced. This is particularly so if the base of the cup close to the stem is kept to a modest thickness – this means making a relatively deep and wide-based goblet. When working on the cup sides, it is vital that you regularly check the piece, ensuring the thickness is even and regular from top to bottom. Some of these techniques can only be accomplished well with a good deal of practice. The final part of making the goblet is to part the inside from the remaining wood holding it to the lathe.



Fig. 3.8 Viking cup by Tony Morgan.



Fig. 3.9 Goblet by Tony Morgan.

To get a fine finish, the goblet can be polished with a very fine paper. Decorative goblets can be oiled or beeswax applied, but if you are intending to use it regularly, a ‘food friendly’ oil should be used. Even if you use your goblet regularly, never place it in the dishwasher as this harsh treatment will quickly strip off any protective oils.

In the home

Doorstops

These are quite easy and very satisfying to make. Almost any species of wood will do, although it is best to use something that is quite hard – ash, beech or oak would be ideal. Your starting piece of wood should be 4–6in (10–15cm) long. If you make a stop that's too long, you'll keep tripping over it.

Cleave your piece of wood and turn it on the lathe until it's round. You can really make any shaped wedge you wish but it is best not to make anything too ornate. Turn the wood to make a small knob-like handle at one end. You can leave it like this or add some decoration using the wire-burning technique – this adds a little bit of class finish to the stop.

The turning is now completed, but of course at this stage the stop is still round. Take the stop, clamp it in the shave horse and with the drawknife gradually reduce each side of the round stop to make the wedge shape. One side should be flat so it sits flat on the floor with the other side forming the angle that wedges the door. An angle of up to 20 degrees should be fine – 15 degrees is about the optimum. Getting this right is going to take some practice. As you take off the surplus wood, you'll be able to see the grain of the wood emerge. This is one of the things that makes each greenwood product unique and a joy to look at, even something as simple as a doorstop.



Fig. 3.10 Door stops by Mark Allery.

The stop needs no other treatment, except, depending on the finish you get with your drawknife, perhaps a fine sanding and a light oil to bring out the grain and reduce the chances of cracking.

Rattles

Making your first rattle is a very satisfying project. You may not succeed at the first attempt and even well-practised turners have failures. The finished product can sell quite well at shows as people find the trapped ring fascinating. You can make your own design and work out the best way of making the rattle yourself. The basics of the rattle are easy. Turn your piece to make a suitable handle at one end and work the other into a series of ridges – these will form the captive rings on the rattle. You can have just one or as many as you can cut on the turned piece.

Work the ridges into a more and more rounded shape, ultimately cutting under the ring to free it from its join with the main piece. This is the part where the ring sometimes breaks; if you start with an option to make more than one captive ring, if one breaks, you have the chance to make some more. You can make a rattle out of any species but a softer wood, such as birch or alder is a bit easier.

Earring holder

Earring holders make lovely gifts, and they are a project where you can really show off your design and turning skills. The design can be yours entirely and there are only a few principles to think about. The holder should stand even and upright without a wobble; it should be designed in such a way that the earrings dangle freely as they would from an ear. The top needs to have a thin lip through which you can easily drill pairs of holes to store the earrings. You can use almost any wood for this project – try something with lots of character, such as walnut, yew, cherry, wych elm or a fruit wood.



Fig. 3.11 Turned earring holder in elm.

Wooden flowers

Gypsy flowers, or wooden flowers, are the staple of the greenwood worker's production at summer shows and fairs. You see them struggling to keep up with the orders for half a dozen per customer, and a queue forming. At £5 a pop for a large flower, this is not bad going. So with little outlay, just a few semi-dry sticks (hazel for preference), a shave horse to hold the stick firm and a very sharp drawknife and you are in business. There are, however, flowers and then there are exceptional flowers, such as these beauties made by Twiggy: definitely the pinnacle of the art form ([Fig. 3.12](#)).



Fig. 3.12 Gypsy or wooden flower.

First take the outer bark off with the drawknife and leave the stick as smooth as possible. Then with infinite care cut away a long thin strip with the drawknife, stopping before you are 1in (2.5cm) from the end. Take the next strip from the wood to one side and continue until you have gone all the way around the stick and you are back where you started. The next row is taken from the next layer of wood but now extreme care must be taken not to sever the original petals. You can keep going like this until you have shaved all the wood away and the flower is detached right in the centre.

The secret to the delightful corkscrew effect is the dryness of the wood and the sharpness of the knife. Hold the drawknife at a slightly skewed angle and take as thin a petal as you dare. Give each one a twist as it is done to accentuate the spiral.

Hold the flower in one hand and using a cordless drill, with great care, drill a $\frac{1}{8}$ in (3mm) hole into the base of the flower deep enough to take a stem, such as a willow wand. A hand drill will do just as well, although you do need to have both hands free so you will have to clamp the flower carefully while drilling. Interesting effects can be obtained by dyeing the flowers with vegetable dyes, though this is a question of personal taste (and what sells best).

In the garden

Dibbers

Dibbers have been used for centuries to help gardeners and growers plant seeds and bulbs. Many people think a dibber is unnecessary, but when you use one you find out how useful it can be. One with 1in (2.5cm) depth marks is especially useful, as it can be hard to get things planted at the right depth without measuring.

As with many turned items, the exact design can be your own. There are just a few essential aspects that need to be thought out as you go along. The handle should be quite broad and comfortable to avoid getting blisters when using the dibber. You don't have to have depth measurements but they can be useful, and of course, the dibbing end should be tapered to minimize the effort of putting it in the ground. Make the depth marks with a thicker than usual piece of wire to make sure they stand out well; they will stand out better on a pale wood. The species really doesn't matter, although woods that are resistant to rot and mould are better, as the dibber tends to get wet. Ash, alder, oak, sweet chestnut and beech are ideal.



Fig. 3.13 Dibbers.

Plant labels

Labels for plants should be made from a durable wood, such as oak or elm, as they are going to be in contact with damp soil for a lot of the time. The surface needs to be smooth enough to write on, so the cleft pieces you start with need

to be sufficiently thick to take a lot of shaving on the shave horse, and then some sanding. An alternative is to use pyrography – to burn the plant name onto the label to make it more permanent. Making the labels quite long enables you to cut off the damp, rotting wood at the end of the season and get several more uses out of each label.

Lining out pegs

It is rather satisfying to see your seeds come up in the spring in lovely straight lines! Using lining-out pegs, you can achieve this. Again, the pegs can be made from almost any wood as they are not in contact with the soil for long and can just be wiped clean. Of the pair of pegs, one should be about 12–14in (28–33cm), and the other shorter at roughly 10in (24cm) in length. Turn the pegs so they are a similar shape; the piece that goes into the soil is normally quite slender. On the larger peg, turn a bobbin-like shape at the top to hold the garden twine around it, and the shorter peg can simply have a turned notch to tie the twine around.



Fig. 3.14 Lining-out pegs.

In the sports pavilion

Rounders bats

There isn't much of a demand for rounders bats, but making these is a good beginner's project. The bat should be 18in (48cm) long and about 2in (5cm) wide. Approximately half of the length of the bat should have parallel sides and then it should slowly taper down the handle to a knob at the end of the handle. Remember to cut down the grain towards the handle knob and don't

forget to finish the rounded end of the bat. The bat should be sanded and treated with linseed oil to harden the surface. Ash makes a robust but rather heavy bat and willow is much lighter and preferable for most people.

Martial arts sticks

Many martial arts use wooden sticks as part of the art/sport. One of the authors went to see Tony Morgan who practises the Korean art of KukSool. He also happens to be a greenwood worker and makes Dahn bong (short staff) and Juhl bong (string staff or flail) used in this particular martial art. Both come in pairs but the Juhl bong are joined with cord. Tony has sold these to people in his local club, as well as nationally.

He has found that people have their own preferences in design, weight and length, and that there doesn't really seem to be a tradition of a particular style in the UK. Apart from the weight, the important dimension is the diameter of the bong – clearly, if they are being used for up to an hour at a time, their width needs to fit comfortably in the hand – people with smaller hands tend to prefer 1in (2.5cm) diameter, while people with larger hands tend to like 1.5in (3.8) diameter; 1.25in (3.1cm) would suit most people.

Tony makes them from hazel, willow, ash and elm. The willow ones tend to be lighter weight than the others, and the elm are heaviest. The ash and elm sticks tend to be cleft and turned on a pole lathe, while the thinner ones tend to be simply peeled and then rounded with a hand-operated rounding engine. The turned sticks look quite formal, while some of the rounded ones are slightly bent or have dried with a slight wiggle in them – some people prefer this more organic-looking form. He says people tend to prefer darker woods, and he plans to experiment with ebonized oak and perhaps staining sycamore. Some turned bong have 90 degree-edged grooves in them made on the pole lathe.

Tony acknowledges that this is only ever likely to be a small market, but as someone who practises the art, he knows what people want, and is able to make them for less than the imported ones. The rounded bong are much cheaper than the turned ones as they take far less time to make.



Fig. 3.15 Dahn bongs and Juhl bongs. (Photo: Tony Morgan)

Hurley Sticks

The traditional Irish game of hurley is thought to pre-date Christianity. There are certainly records of it being played 1,500 years ago and there are many references to the making of hurley sticks through Irish history (also sometimes known as a hurl or caman). The women's version of the game is called camogie and the Scottish variation is known as shinty. The game uses sticks made from ash and the hurley maker uses the natural characteristics of the habit of suitable ash trees.

Trees are selected that have pronounced flutes and buttresses at the base of the tree. These features can be found in one form or another on most trees but good hurley trees are highly prized. The sticks have a similar shape to the hockey stick, but have a much rounder and fatter end and this characteristic curved shape comes from use of the ash buttress. Ash, of course, has the property of being able to withstand considerable repeated shock and so is ideal for tool handles and games equipment.

The ash trees are carefully selected and have to be felled in an unconventional way to preserve the full extent of the butt. With standard forestry practice, the base of a tree is left in the ground as a consequence of using a safe tree-felling technique. The felling of ash for hurleys involves using the chainsaw to burrow into the tree at or even just below ground level and without the directional felling cut. This means that this is a hazardous operation and great care must be taken. Once felled, only the bottom five feet

or so of the tree is taken back for making hurleys. The butt is carefully marked out and sawn to maximize its use, each buttress can make two hurleys. The hurley is shaped in the time-honoured way by hand using a drawknife.

It is really great to see that hurley making is a thriving craft in Ireland with its own Guild of Hurleymakers. Approximately 700,000 hurleys are used each year. This equates to about 2,200m³ of ash timber. Seventy three per cent of this is imported, but is often not of a sufficient quality, so there is a substantial demand for quality hurley ash from the UK.



Fig. 3.16 Playing hurley in Ireland. (Photo: Michael Somers)

CRICKET BATS

Gray Nicolls

Cricket bats almost didn't make it into this book. Although many of the techniques used to make bats are familiar to greenwood workers, the process has become increasingly influenced by machines and science due to the modern popularity of the game, largely originating in India.

The techniques described here with accompanying photographs follow a visit to world-renowned cricket bat makers, Gray Nicolls, based in Robertsbridge, East Sussex and established in 1855. The oldest bat in existence dates from 1729, but designs have come a long way since then, and continue to evolve. There are about forty bat makers remaining in the UK, although unfortunately, a lot of the actual making is now outsourced to India, where such a labour-intensive process is more cost effective.



Fig. 3.17 Cricket bat blanks stacked in the kiln for drying.

Bats are made from a variety of white willow called cricket bat willow (*Salix alba* var. *caerulea*). The trees are grown in plantations, planted at a very wide spacing to ensure rapid growth, and they are high pruned to encourage straight and long, branchless trunks below the tree's canopy. The trees are usually grown on fertile moist sites, usually in the southern half of England, but sometimes as far north as the Scottish Borders. The trees are about twenty years old when harvested – the growth rings can be half an inch wide, representing very rapid growth. A good price is paid for the timber to encourage the replanting of trees, which ensures a steady supply for the future. The world's entire supply of bats is sourced from English willow (there are some bats made of Indian willow, but these are regarded as inferior).

The willow trunks arrive in the yard fresh from felling. They are cross cut into 29in (73.6cm) lengths and the ends sealed to stop rapid drying and consequent cracking; the bark is then stripped. These lengths are cleft into sixths or eighths, depending on the diameter of the tree. This used to be done by hand but is now mainly carried out with an enormous log splitter. These large, rough blanks are then stacked in a warehouse ready for sawing to remove the bulk of the unwanted material. There are about three or four lengths per tree, so around twenty-four bats can be made from each tree. Following the sawing, the blanks are re-stacked and placed in a timber-drying

kiln for eight weeks as the moisture content needs to be reduced to 12 per cent.

When at the right moisture content, the bats are shaped by the greenwood technique of using a drawknife to remove surplus material and refine the blank close to its final shape. The next step is to fit a handle. This is made of cane, which has naturally flexible properties to absorb the shock and vibration of that six being hit over mid-wicket. The handles are prepared separately and actually arrive ready-shaped. The handle is carefully measured up to the bat and shaped further until the maker is certain the right match has been made and only then is the handle glued in place. Any slight imbalance and the bat would be useless to a player. When the glue has set, the handle is shaped to match the rest of the bat.



Fig. 3.18 The handle and bat are finished by shaving with a drawknife.

As well as being different sizes, bats are also different weights. The weight is adjusted by taking a wide concave groove out of the back of the bat – the more wood that is removed, the lighter the bat. Bats are now generally heavier than previously. The other recent trend is for the bats to be slightly curved into a banana shape. This is done by a machine built for the purpose. Professional players are incredibly tight in the specification of their custom-made cricket bats and top-end bats cost more than £300 and last only about three months because of the intense use they get. The average price for a bat is about £150, which seems to be good value considering the incredible journey each bat goes through.

The bat is now almost ready, apart from going through a process of sanding and buffing. The bat is then faced with a strong and durable plastic covering (this replaces the varnish that used to be applied). The handle is bound and gripped and the maker's name stamped on it.



Fig. 3.19 Cricket bats awaiting binding and finishing.

Given some practice, your greenwood working skills should be up to making a reasonable cricket bat for home use. The one process that would be difficult to replicate is the splicing-in of the cane handle, but you should be able to use for example, an ash handle, or even make a bat in one piece of wood. Obtaining cricket bat willow could prove problematic, but this is a fun project and shouldn't be taken too seriously.

TURNED BOWLS

Robin Wood

Robin Wood became fascinated by trees and timber following the great storm in the South East of England in October 1987. At that time he was working for the National Trust and had to assist in the clear up of thousands of trees blown over in the winds. Much of the wood flooded the firewood market, but the sheer quantities and the sorrow at the loss of so many fine trees stimulated many people to find creative ways to utilize the timber.

Robin moved to Hatfield Forest in Essex and became very involved in the work that the National Trust was doing to restore the 600 acres of woodlands back to a medieval system of coppicing followed up until the twentieth century. Because the coppice was mainly derelict, the timber produced in the initial restoration cut consisted of large diameter trunks for which the Trust struggled to find a market. Robin became increasingly interested in the traditional uses of wood and decided to research what had become an obsolete craft, of bowls turned with the use of the pole lathe. The last production craftsman making bowls in Britain was George Lailey who had died in 1958. Robin learned a lot from studying George Lailey's original pole lathe and pictures of his nests of bowls. In the main his study of the styles of bowls that would have once been universal was restricted to museum pieces.



Fig. 3.20 Robin Wood's nest of bowls.

Robin was drawn mainly to the utilitarian artisanal style of woodturning that displays the tool marks clearly upon the surface. As he explains, utensils that are produced in what appears to be a 'humble thoughtless manner' – this is more than an aesthetic preference but has a practical reason for the type of wooden kitchenware that is going to be washed regularly. When you finish a wooden item with sandpaper it can look and feel fabulously smooth but in fact the grain is filling up with fine sawdust, which is washed out over time, leaving a sanded item looking fluffy or even furry. Whereas wood that has been cut with a sharp-edged tool will retain its surface and even improve with

use.

Robin sources his timber from a tree surgeon who works mainly in Sheffield maintaining the street trees. He is happy to work with a range of different timbers, with beech, sycamore and alder the most frequently used. He gets the butts in length and stores them until they are mellow: a stage of seasoning that is judged when you can remove the bark by hand to reveal woodlice. He says that the mellow nature of the wood was stipulated by the cross cut pit sawyers who found fresh timber just too sticky for the saws. More importantly, it is harder to get a clean cut across the end grain with fresh wood. The timber is cut into blanks using a large chainsaw.

Robin has an interesting stance when he is working, with his right foot raised slightly on a block of wood and the left leg doing the work to drive the treadle. Each down stroke takes his left foot lower than his right, which has the effect like riding a bicycle of balancing the body and keeping his hips level. This allows him to work long hours without tiring and reduces the overall wear and tear on his body. His tool kit includes an impressive array of up to thirty chisels, all hand made from Sheffield steel and forged on the premises. They are mainly variants on the hook chisel and kept razor sharp.

Robin explains the following method of making a porringer: a deep bowl with two handles either side of the rim. The blank is attached to a mandrel, which is a sturdy cylinder of wood with four spikes on the end. The centre of the blank is marked and the mandrel hammered into place; this is then fixed to the poppets of the pole lathe. The cord of the lathe is wound around the mandrel, then turning can commence.



Fig. 3.21 Robin with a mellow butt of beech.

The first stage is the roughing out (Robin does this apparently effortlessly). Then he uses a finer chisel to shape the bottom of the bowl. The blank is then turned and the centre taken out in progressive steps; working firstly around the rim to shape the surface of the handles, then down the inner walls, stopping to check the thickness of the remaining wood with a practiced hand, leaving a chunk in the centre which is gradually undermined with the chisel until the centre snaps off and the bowl is done. With experience there will be no need for measuring or use of callipers as the hand and eye becomes well practised in producing uniform bowls in a range of sizes. Finishing is done astride a shave horse with the bowl clamped between his legs and a long knife (of his own design and making), grasped with two hands and any unevenness of the centre or the base trimmed smooth.



Fig. 3.22 Robin Wood's handmade chisels.



Fig. 3.23 Trimming the base with a long-handled knife.



Fig. 3.24 Finished bowls drying in workshop.

The handles are shaped with a side axe and then finished with a straight carving knife. Robin reckons that twenty bowls is the most he has turned in a day – an impressive total.

The bowls are then stacked upside down on shelves in the workshop to dry out slowly for about six to eight weeks. Robin can tell when they are ready by tapping them and listening to the ringing sound they make when dry enough. At this point they are dipped in and out of hot linseed oil, the heat of the oil making it thin (less viscous) so that it penetrates the pores of the wood.

CARVED BOWLS

Carved bowls were made long before wood turning was invented, and it is gaining in popularity as a skill. You can, of course, carve any wood, but just as for other crafts, some woods are easier than others to work with. If you are starting out on bowl carving, then it is best to choose an easily worked wood such as birch, alder or sycamore. For your first project chose a fresh, green log that is free of knots and branches. Your bowl may be any size and design, but the experts we have talked to recommend spending a little time thinking about the design and planning it out with some sketches. This works better for bowls than for instance, spoons, when many people just see where their project takes them.

Choose a log roughly 15in (38cm) long and 6in (15cm) wide and cleave it in two; if the log has any end cracks, cut these off first. Use a side or carving axe

to reduce the thickness of the log from the cleft face back – this removes the central few growth rings. Using the axe, flatten the rounded side of the half log; you need this flat surface on which the bowl blank can be steady and not too wobbly as you work on the inside. Do not spend too much time making the surface smooth as much of this wood is going to be removed shortly. At this point, you may wish to draw the bowl rim onto the top side of the log (the larger flat) to guide your adze work. So far you will probably have worked on a chopping block: now you need to secure your bowl well so you can remove the wood from its inside.



Fig. 3.25 Two methods of holding a bowl blank steady while it's being carved.



Fig. 3.26 Carved trencher by Sue Swatridge.

It is quite easy to make a shave horse-style bench, just the right height for you, with blocks at each end for clamping the bowl. Alternatively, you can

make a jig (*see* Figure 3.25), carved from a solid log with a chainsaw. The excess wood is removed with a short-handled bowl-carving adze. Try to take chips rather than larger scoops as this is more effective, until you reach a point when most of the wood has been removed. The surface is normally finished with a bowl carving gouge; these usually have a relatively long handle to give better purchase on the wood. Finish the inside of the bowl as far as possible before starting on its outside as this is the stage when it is most easily clamped.

The next step is to remove excess wood from the outside of the bowl – this can be done with any one or a combination of carving axe, drawknife, rasp and spoke-shave. Be careful not to clamp the bowl too hard at this stage or it will crack and break. You can continue to mark out the design with a pencil, including the dimensions of the handles. Try to leave a reasonable amount of wood along the length of each side, as this will enhance the strength of the piece. You can carve shapes and designs on the top and along the edge of the bowl if you like, or even use coloured paint or dyes if your wood is rather plain.

There is one more stage, which is to let the bowl dry, this won't take long as most of the wood has been removed. However, try to dry the bowl slowly to reduce the risk of cracking. Once dry, there will probably have been some movement in the wood resulting in some convex or concave areas; these may be perfectly acceptable and need no remedial work. Pay special attention to the flat base though, as a wobbly bowl isn't really satisfactory. Some people sand their work to get a fine finish, but others prefer to leave the tool marks showing and this makes for a much more hand-made look. You can use linseed oil to seal the wood, but flaxseed or even olive oil is fine.

SHRINK POTS

The origin of shrink pots is rather obscure, but they probably originated in Scandinavia or North America. They are so called because the greenwood container shrinks onto its base, which is made from seasoned wood.

You can make a shrink pot from any freshly cut wood but something easy to carve, such as birch, ash, willow, alder or lime, is best. The beauty of birch is that the bark is so pleasing compared to many of the other species. The base

can again be made from almost any wood but it must be bone dry to avoid it shrinking in the pot; a harder wood than the pot itself is ideal, such as oak, chestnut or hazel.

The pot can be almost any depth but obviously, deeper pots require longer to make and anything deeper than about 6in (15.2cm) will be difficult to make well. Pick a straight section of wood and cut it to the desired length. Next, clamp the wood in a vice and use an auger to drill out the centre of the pot; drill right through to make a hollow cylinder. The larger the auger you use, the less carving you will need to do at the next stage. Remove the cylinder from the vice and use a spoon knife to remove the wood from the inside; keep going until the pot walls are the right thickness. This dimension is up to you but the pot needs to be strong, so don't carve it so the walls are less than 0.25in thick (0.5–1cm). Use a pencil to mark the pot wall width on each end as a guide.

The next stage is to make a recess in the bottom of the cylinder into which the pot base will fit. Put the cylinder on the base as you want it to fit and again, use a pencil to scribe a line around the inside of the base. If in doubt, go a little further into the pot than you think might be necessary – the bottom doesn't have to be flush with the cylinder base. Use the tip of a knife or small chisel to remove the wood, up to half the width of the cylinder wall. This is quite tricky and you may need to use the spoon knife to clean up and slightly chamfer the cut.

To make the base, take your well-seasoned piece of wood and use a drawknife to shave it to the right thickness. When you have done this, put the pot cylinder on to it and draw around the inside of the cylinder onto the base with a pencil; you can then shape the pot base with a knife. Keep checking your work by offering it up to the cylinder. You can make a pencil mark on the pot and the base to ensure that you are checking pot and base at the same point each time. Chamfer the top of the base edge to match closely the chamfered cylinder shape you have just made. Once you are happy with the fit, you can tap the base hard into the pot base. As the cylinder dries, it will shrink tight onto the base.



Fig. 3.27 Shrink pot with pegged lid. Maker: Sean Hellman.

You can make a lid following the birch bark pot instructions in [Chapter 5](#). However, make sure the pot has shrunk onto its base first; if you make the lid when it is green, it will shrink onto this as well, making it immovable. A lid made of a different species makes an interesting contrast of wood colours or grain. With a little ingenuity, you can make a lid that fastens closed, although this will take quite a bit more work.

You can leave the outside of the pot in its natural state to show off the lovely birch bark. If the bark is rather plain, you can remove it and can carve a design or you can add some colour by painting a design.

FREE-STYLE SPOON CARVING

James Mitchell

James Mitchell is the very first graduate of the Bill Hogarth MBE Memorial Apprenticeship (BHMAT) scheme. He completed his three-year apprenticeship and gained the Bill Hogarth Coppice Diploma in 2006. He has since made a successful business in coppicing and the greenwood crafts, based in Kendal, Cumbria. He attended the first Woodland Pioneers – Introduction to Coppicing course in 2001, but was already experienced in making spoons. Although self-taught, James has picked up a great deal from friends and colleagues, and especially from Wille Sundqvist's book *Swedish Carving Techniques*, which he found inspirational. (At the time of printing, this was out of print – copies may cost more than £100.) James feels that if you can carve a spoon, you can carve anything. He still has the first spoon he carved and looks back on his

first attempts with much fondness; this first one was large and very clunky – he calls it a troll spoon.



Fig. 3.28 James's ladle spoon.

Art and design runs in James's family, and this is perpetuated in much of his work. The spoon designs are freestyle; that is to say they don't conform to a particular design or tradition, but are inspired by imagination and are sometimes completely abstract. The design may come from the wood itself – from the shape of the starting piece, from the grain or other characteristics, such as knots. It may come from the tree itself – the different species might inspire a particular carving for the handle. Sometimes, if the spoon is a gift for a particular person, it might be that person who inspires the design. James admits that spoon carving can be quite addictive and much of his early practising took place in his living room; his partner, Vicky, tolerated this and he reduced the mass of shavings by learning to direct them all onto a tray on his lap.

James has carved spoons out of virtually all the British timbers. For beginners, the softer woods like sycamore, birch and lime are the best. However, these woods can be rather bland – they all have a whitish or cream colour and often little in the way of interesting character; sycamore can be hard to get a good final finish on. Alder is also soft and easy to carve, and has a more interesting colour. Oak and ash are more difficult with a harder grain and are harder to finish well. By far the more interesting species to carve are the 'fruit' woods (so called, even though they are not all recognized as fruit trees in the traditional sense). This is mainly because they grow more slowly and

have a harder, denser wood, sometimes with an almost soapy or waxy texture which finishes well; they are also often full of character with an interesting figure. These wonderful carving woods include cherry, holly, damson, apple, pear, almond, apricot, hawthorn, blackthorn and juniper. These woods are undoubtedly harder to carve, but the dense wood will allow a detailed finish. Laurel and cherry laurel also make good carving woods. But note, James is cautious about using potentially toxic woods for spoons. The conifers are not traditional spoon carving timbers but he has used Wellingtonia for some spoons – which has a lovely purple-tinged heartwood.



Fig. 3.29 Delicate spoon in cherry with simple leaf carving on handle.

SAFE SPOON CARVING

Before breaking down the wood further with the axe, it is important to stress some safety aspects of spoon making. There are two principles you need to remember. When using the axe, never take it further back than the hand holding the spoon blank. Long swings of the axe are completely unnecessary; they make your hand tired and an accident is waiting to happen. Keep the axe below your hand so it can only hit wood and doesn't take a chunk out of your hand. The second principle is always to use a sharp knife, and to make sure the blade doesn't cut your hand. Carving knife cuts tend to be deep and efficiently made – there are plenty of tales of spoon makers who cut tendons in their fingers and hands, resulting in sometimes permanent impairment of movement of hand or finger.

Usually the heartwood is used, but sapwood can be incorporated, especially where this differs in colour, and often makes for a more attractive pattern; the classic species for this is yew, where the sap-wood is a light yellow and the heartwood is a warm, rich orange colour. Spoon carving is done ideally when the wood is green and fresh, i.e. no seasoning has taken place. However, the finishing is best carried out after some drying of the wood.

Starting with the round log, this has to be broken down into smaller pieces

by cleaving. As depicted many times, this is normally done by using a small froe and mallet; the log is broken down as many times as is required to obtain the spoon blank. The pith of the log is normally avoided for spoon carving as it is unpredictable when it dries. If possible, try to use the natural curves of the wood to your advantage – this will reduce the amount of time you spend removing excess wood and will make for a stronger item when finished.



Fig. 3.30 Safe carving technique with the thumb well out of the way.

Remove the bulk of the material with the axe. James uses a small, light axe such as those marketed as a wildlife hatchet; many people use a Swedish Grandfors carving axe, but this will be too heavy for some. James uses a technique called feathering, where notches are made up the length of the blank, and are then taken off with a final more controlled cut keeping the blade below the hand.

When the basic blank shape has been obtained, the axe is generally not used again. To create the tick-shape that most spoons have, make a saw-cut approximately where the spoon bowl begins. The depth of the cut will depend on the size and design of the spoon. The carving knife is now used to remove this material on either side of the saw cut, helping to create that tick-shape.



Fig. 3.31 Roughed-out 'stiletto' ladle shape.



Fig. 3.32 a 'Thumb push' carving; b 'potato-peel' technique with a crook knife.



Fig. 3.33 Variety of spoons using different woods. Maker: Steve Tomlin.

There are several techniques of using the knife. James prefers the cross-thumb method of carving, with one thumb on the back of the knife and the other on the back of that thumb; this gives a powerful, measured and very controlled technique. To steady the hands, this can be done with them resting on your knee or your chest. The ‘spear-sharpening’ method is to use the knife pushed away from you, off your knee, giving the opportunity to remove large amount of wood at each stroke. The ‘potato-peeling’ method is more controlled and more accurate with the knife coming towards you, against your thumb.

The next stage is to take the material off the side of the handle and to shape the back of the bowl. When you are happy with this, the bowl can be made using a special spoon knife. This should be used across the grain to get the best finish, using the potato-peeling method. Its best to do the bowl before any finishing work.

Finishing is normally carried out after the spoon has been allowed to dry. In a centrally heated house, drying overnight may well be sufficient. A dry spoon sands much better than a green one. Sanding starts with a coarse sandpaper

and works to a fine one, giving a silky smooth finish. Any fine carving of patterns, logos or other embellishments, normally on the handle are completed before oiling. Tung oil is one of the best oils, which is both odourless and colourless but brings out well any character in the grain. Most nut oils are suitable but in that case an allergy warning must always be put on spoons before they are sold.

James's spoons take about an hour from start to finish; most of the carving work is done in fifteen to twenty minutes, with the fine detail and finishing taking more time.

CONCLUSION

This chapter has included a wide range of crafts, skills and potential projects that form the mainstay of some greenwood businesses. If you have a stall or outlet where people can pick up small things and handle them, they are always a good selling point for a business and lower value items can be purchased on a whim. But there is more to greenwood than turning and whittling as we show through some of the bigger projects featured in the following chapters.

Chapter 4

Greenwood Chairs

This chapter takes a look at the wide range of chairs that are being made by greenwood workers around the country. These often reflect local traditions of chair making and vernacular styles handed down over generations and sometimes push the boundaries of chair-making techniques and styles to develop unique and creative versions of what perhaps is the most basic of all functional furniture.



Fig. 4.1 A simple, but functional, stick chair.

We start with Lawrence Neal, who is keeping alive the Arts and Crafts-inspired designs of venerated chair makers of the late nineteenth century, such as Phillip Clissett and Ernest Gimson, and will visit Paul Girling who is one of the country's finest exponents of modern greenwood chair making. We call in on Mike Abbott who has been hugely influential in raising awareness about greenwood chairs and in bringing the techniques to countless people through his books and courses, and take a look at the fabulous work of Gudrun Leitz, whose free form chairs are inspirational to those who prefer a more creative style. With your appetite whetted we cover some projects that you can try for

yourselves, such as a simple greenwood stool and a stick chair.

GREENWOOD CHAIRS

Lawrence Neal

In the centre of the village of Stockton in Warwickshire, there is a detached building, almost chapel-like with high windows, which was the old Co-op. Step through the blue and white door into an earlier era, where even the coating of dust seems steeped in historical significance. This is where Lawrence Neal works, producing chairs that are both functional and beautiful in a simple, unpretentious way. The designs go back to the designer architect Ernest Gimson, a leading exponent of the Arts and Crafts movement, who founded workshops at Daneway in Gloucestershire to bring together quality craftsmanship, materials and designs. Ernest Gimson himself had learned chair making from Phillip Clissett, who had been adopted by the Arts and Crafts movement, having been ‘discovered’ by the Scottish architect James MacLaren. The Arts and Crafts movement was essentially a counter reaction to industrialization, which had been rampant for the previous century or more and artisans, such as Clissett, were valued as true practitioners of a level of vernacular skill that was in danger of being lost. The Gimson chair designs were taken forward by Edward Gardiner (who had been encouraged to make chairs by Gimson) and have been kept in continuous production, first by Lawrence’s father Neville Neal, who was apprenticed to Gardiner, and now by Lawrence himself.



Fig. 4.2 Lawrence Neal in his workshop seating a chair with rushes.

Lawrence did not receive any formal training, he just used to mess about in the workshop as a child. In his teens he started to work alongside his dad in the school holidays. He worked with his father from 1966 until Neville's death in 2000. Maintaining this long chair making tradition is Lawrence's mission in life, and although he does admit to coming up with new and better ways of doing things from time to time, the designs essentially stay the same.

The chairs are made from green ash or oak. The components are turned and some are shaped by boiling and setting on a form; the seats are always of locally grown rush. Finishing is by sanding and the application of wax polish. There are nine different styles, all based on the ladder back chair (apart from the Ledbury and Gardiner which have spindles), which can be made as side chairs, carvers or rockers.



Fig. 4.3 The Gimson chair.



Fig. 4.4 Gimson's shave horse.



Fig. 4.5 Patterns for the chairs hanging on the wall.

The timber for the chairs is sourced as locally as possible, although there is very little ash of any quality in the woods around Stockton. Lawrence travels to pick up the wood from Malvern or Cirencester. He is looking for clean, straight stems of 9–12in (22.8–30.4cm) diameter, which he cuts to 7ft (213.3cm) lengths – this will be long enough for two standard back leg lengths. Large butts are cleaved in two or quarters on site to make it easier to load the trailer. The lengths for the legs and backs are worked while still green so that the natural shrinkage of the wood creates tight joints. By contrast the spars or stretchers are cut down to square blanks on a circular saw and left to season, either on racks near the stove in the workshop or in summer under a tin-roofed shed in the yard, and then turned.

The lathes are electric, which allows the dry wood to be worked with ease, although it is hard on the chisels, as these wear down with the constant sharpening and require regular replacement. By contrast, many of the tools and devices of the workshop came from Daneway – the shave horse and the benches showing the patina of over a century's use.

Hanging on the wall are the patterns for the different chair designs; these do get replaced occasionally but the new ones are faithful copies of the old. The

legs are scored very lightly using the pattern as a guide to show where the mortices should be drilled and these marks remain on the wood. Lawrence usually makes the components for twelve chairs at a time. The back legs and the slats of the ladder back chairs are immersed in boiling water for an hour. They are lifted out (using gloves) and put into the bending frames to set. As they come out of the boiler, he pairs them up to match the grain and colour and marks them with a pencil, so that they can be identified easily. It is important to look carefully at the legs for faults, and experience tells him which way the wood will bend.

Ash does have a tendency to break occasionally at this point, whereas boiled oak is like rubber and will readily bend. The components are left on the bending frames for a week, by which time they will have lost a lot of moisture and set to shape. At this point the mortice holes are drilled using the score marks as guides. The spars that are already dry are turned down to size in one operation and then a little bit is chiselled off the tenon on either side to create an escape route for any excess glue. Put a dab of glue into the mortice hole and drive the spar home. Without the escape route, the hydraulic pressure of the glue could cause the wood to split. As it is, the joints are hammered in as tight as possible, as the chair is expected to take many years' wear without becoming loose.

In fact none of the chairs ever do fall apart, which apparently was a problem up until the 1960s, when chairmakers were relying on animal-based glues. The components are sanded on an electric belt sander, hence the coating of dust in the workshop, although Lawrence always uses a dust mask. The components are sanded just enough to remove the marks made by the bending frames but not to remove the scribe marks.

The day I visited, Lawrence was seating a chair, the bright green of the rushes vivid against the pale ash wood of the chair frame. The rushes had been cut in the autumn – they are the true English bulrush (*Scirpus lacustris*), not to be confused with Reedmace (*Typha latifolia*). He goes to a farm in a village called Wolston near Coventry on the River Avon, and spends about five days cutting the rushes, which he bundles and brings back to a stack in the workshop. The sheaths of rush are divided into smaller hand-sized bundles of which he will use about 500 in a year. The seating is not his favourite job, not

so bad when there is just one or two to do, but at four to five hours per chair, it is a daunting task when there are a dozen waiting to be done.

Rush seating

The rushes are soaked overnight before using and kept damp under a sack. They are joined in, one by one, fat end first and twisted tightly into a cord that is kept under tension as the seating is built up from the outside edge to the middle. Joins and ends should be tucked in and trimmed off below. The green rush mellows to a straw colour with age but the result is a durable, naturally cushioned seating which is as comfortable as seating can be.

The chairs sell themselves with a little help from the website, and there is demand for them from the National Trust for their Arts and Crafts houses, such as Attingham Park. The Landmark Trust too has properties that require reproduction chairs, and a number of schools and hotels are regular customers. Bedales School even has a namesake chair style in the catalogue. In Neville Neal's day they would regularly attend the Royal Show (now sadly defunct), but Lawrence does not go to shows these days unless it is one that he fancies doing, and he will certainly not have any other items for sale.



Fig. 4.6 Detail of the rush seating.



Fig. 4.7 Rush seating.

Many people have asked Lawrence to help them to learn chairmaking, but he is put off by the constraints of meeting Health and Safety legislation which is, of course, quite stringent where power lathes are concerned. His two sons have other careers and his daughter, who had shown an interest in the business, is now working in a solicitor's office. Lawrence holds quite traditional views about the ability of women to make chairs – 'not enough strength' apparently. It was suggested that getting someone in to help with the seating would free him up from a task that he does not relish, and he used to have a man who came in to do the seating up until the 1970s. But Lawrence prefers to put the radio on and get stuck in without distraction. Likewise he has not been lured into offering chairmaking courses; he reckons he 'might not have the patience for it'. However, he has no plans to give up chairmaking, so the Gimson chairs will continue to be made for some time to come.



Fig. 4.8 Cat's eye view of chair.

Paul Girling

Paul Girling is a greenwood chairmaker who has been making chairs for more than twenty-five years. He works full time at his workshop at Farfield Mill in Yorkshire, and produces forty to fifty chairs a year. He was trained initially by Mike Abbott and still makes Windsor chairs with wooden seats, some of which are like the Welsh stick back, while others are comb back. He also makes a range of frame chairs with a variety of woven and upholstered seats.



Fig. 4.9 Cleft ash carver.



Fig. 4.10 Elm bark seating.

His workshop is full of beautiful pieces being prepared for the annual exhibition at Witherslack, Cumbria; the main showcase for his work. Amongst the chairs are smaller items like spoons, spurtles and bowls, and a few fantastic items such as a twisted ladder and a cleft ash wall hanging. Paul has what he calls his February fantasy pieces – during which he plays with new ideas or

purely creative projects.

Ash is the main timber that Paul uses for his chairs – usually the clean, straight fast-grown ash of the deeper soils over limestone that can be found in the Witherslack area or on the Sizergh estate. Sometimes what he needs is a special curve or natural shape for an arm rest, and he relies on a local coppice merchant to spot some ideal pieces. Some of his chairs are from oak and this is mainly sourced from windblown trees or the occasional felling of a standard in a coppice area. He uses elm for seats but it is increasingly hard to find the common elm (*Ulmus procera*) these days; with its beautiful complex swirled grain that makes tough seats for Windsor chairs, which will not crack. The wych elm (*Ulmus glabra*) has much straighter grain and is better for providing bark for seating.

Occasionally Paul uses sycamore, often as a special commission, using a much-loved tree from someone's garden and turning it into furniture for them to treasure. Most of the wood is brought in and used while fresh, so Paul does not accumulate a stockpile but plans his work around sourcing freshly felled wood.

The wood is first cleft with axes and wedges and a wooden mallet. The majority of the shaping is done with a razor sharp side axe with which he dresses the timber down to almost finished dimensions. A drawknife used on a shave horse will complete the shaping at this stage. If the pieces are to be steamed and shaped then this is done now. All that remains is to turn the tenons on a pole lathe 0.125in (3mm) oversize. The completed chair parts are then stored for seasoning for a minimum of six months, or more usually one year and, in some circumstances, two years.

The idea of storing the pieces is to reduce the moisture content (MC) of the wood to 18 per cent, which is measured with a moisture meter. The final drying is done in a drying cupboard (which has a greenhouse heater for a gentle heat source) and this may take a week to reduce the MC to 10 per cent.



Fig. 4.11 A drying rack.

The parts are now ready to be finished. The tenons are rounded with a rotary plane (they will have shrunk oval) and the finished surfaces are cleaned up with a spokeshave and cabinet scraper, and finally with sandpaper. Paul is keen to stress that his chairs are not rustic but in fact have a fabulous finish, which is achieved by a lot of hard work and attention to detail. The parts are now assembled and the joints glued with PVA glue or secured with dowelling or, in some cases, are interlocking, where two rungs or rails are fitted into one leg at right angles. The first rung is fitted and then the second mortice hole drilled slightly higher and into the tenon of the first rung; this creates a strong locked-in joint and reduces the weakening effect of the mortice on the leg (*see Fig. 4.13*).



Fig. 4.12 Components ready to assemble.

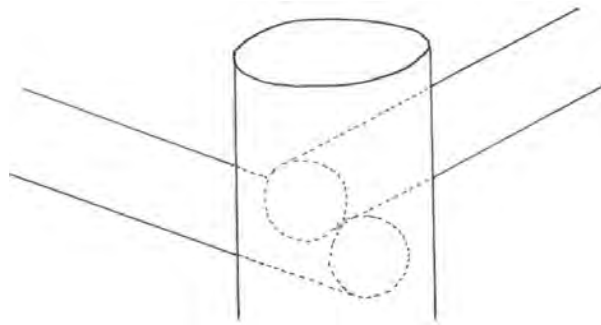


Fig. 4.13 Interlocking joint.

After assembly the wood is wiped all over with a hot, damp cloth to raise the grain, before a final sanding. The chair is then oiled with a finishing oil and waxed with a neutral wax polish. Some chairs will be stained with a special stain that Paul mixes himself, and then waxed.



Fig. 4.14 A bench-style ash settee with upholstered seat by Paul Girling.

The frame chairs must then be seated: elm bark is a favourite material. Rush seating is also a speciality, and Paul uses Coniston rush gathered then stacked to dry. He has experimented with twisted cords of textiles, which is an interesting variation on an upholstered seat.

Chairmaking cannot be hurried – the concept of a five-day course to make a chair is painful for Paul to think about. His record speaks for itself. He has never had a chair returned that has become loose or creaky or where the wood has split. Attention to thorough seasoning of the components is imperative for Paul, and each chair is the result of many, many hours of skilled, hard work.

Mike Abbott

Mike Abbott entered the chairmaking world after a previous career in youth work and public access. He studied Recreation Management at Liverpool Polytechnic but found working as a ranger did not meet his growing need for contact with trees and wood. He recalls a conference in the mid-1970s where the modern concept emerged of woodland as a beneficial place for people to be. He was fortunate to get a job on the Youth Opportunities Programme in Bristol, where he took groups of unemployed people out into the woods and

introduced them to the pole lathe, making tool handles and bridge building. It was during this period that he came across Drew Langsner's book *Country Woodcraft* (Roedale Press, 1978) and was very inspired.

Drew and John Alexander were busy reviving the tradition of Backwoods furniture making in America, and Mike was keen to incorporate some of these ideas into his own work. When the programme ended Mike had a period of unemployment himself, from which he emerged in 1985 with a determination to set up his own business running courses. His concept was to reconnect people with wood and woodlands through greenwood crafts. The courses were very successful as can be seen from the number of chair makers in this book who can trace their own histories back to a course with Mike. The woodland setting was an important element in the experience which Mike wanted people to have.



Fig. 4.15 Mike Abbott with two of his chairs.

In 1994 he was able, with his wife Tamsin and fellow chairmakers Gudrun Leitz and Chris Armstrong, to buy the wood that was to be called Clissett Wood. This gave Mike the ideal base from which to run the courses. As his business has grown and developed he realised he needed a site to himself, so now has moved on to Brookhouse Wood. He has introduced a system of

training assistants who come and work alongside him and learn the trade while helping out with courses. Some of these trainees have gone on to set up businesses of their own, notably Ben Orford, Richard Ely and Barn-the-Spoon. Some of his recent assistants have been very keen on music and this has become an essential element of the work at Brookhouse Wood. For Mike, his driving purpose is to provide an enjoyable experience for everyone who comes on his courses.

Mike has moved away from the Windsor chair and has moved back to the traditional Arts and Crafts-style Clissett chair. He has honed the techniques of chair making and documented these in a series of books the latest of which, *Going with the Grain* (Living Wood Books, 2011), advocates abandoning the pole lathe for the speed and efficiency of the tenon cutter.



Fig. 4.16 Mike's chair seating in elm bark and kamba.

Mike has plans for retirement in six or so years when he can really become a chairmaker, although he says that his real interest is in innovative and traditional seating, from Danish cord to kamba – a rope made of palm leaves from Tanzania.

A SIMPLE GREENWOOD STOOL

You will need: a bow saw, chopping block, splitting axe, wooden maul, side axe, drawknife and shave horse, spoke shave or cabinet scraper, brace and bit, rounder or pole lathe, a small mallet and a dab of wood glue.

Take an ash log of 6in (15cm) minimum diameter and cut to 16in (40cm)

long. Place the cut log on a wooden chopping block and with an axe and a wooden mallet split the log down the middle with a deft blow to the back of the axe. Repeat this process with the two halves until you have four equal quarters.

With a sharp side axe, taking care to protect your hand that is holding the wood, start to chop away the excess wood to make a cylinder, or a square section if you prefer. Always work from the centre downwards then turn the wood over and repeat to shape both ends equally.

When you have roughly chopped the wood to the right shape, finish the shaping on a shave horse with a drawknife. Again work from the middle towards you, and then turn and repeat on the other end, paying particular attention to the centre section so that it remains an even thickness throughout.

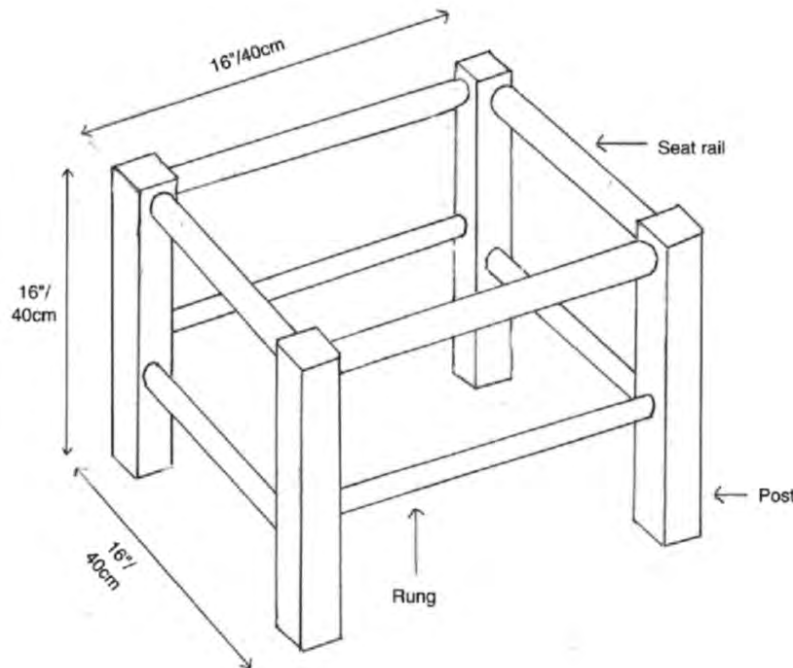


Fig. 4.17 Diagram of the stool frame with the components labelled.



Fig. 4.18 Tools you will need.



Fig. 4.19 Roughing out with a side axe.

The drawknife can give you a rustic finish; however, spoke shaves and cabinet scrapers will provide a more refined, smooth finish. Take care to work with the grain of the wood so that your tools do not dig in and create tears. If this does happen, a bit of creative carving can make a bad slip look intentional.

When you have made four equal (or eccentrically different) legs then make four seat rails in the same manner, these may be flattened on the top side to

make a more comfortable seat. Rungs are often turned on the pole lathe even if the legs are not: it is a good way to achieve a uniform size; and decoration in the form of bumps and wire burns can be added if you are inclined to do so.

Tenons on the ends of your rungs can be shaped in three ways.

- With the drawknife: but care and accuracy is very important to get this right.
- With a pole lathe: turn until 3mm oversize (measure this with callipers).
- With a rounder (*see [Chapter 2](#)*).



Fig. 4.20 Using a drawknife and shave horse.



Fig. 4.21 Close up of the tenon.

The components should now be thoroughly dried. A warm cupboard or rack over a stove will speed this process up, but patience is important here as the drier the wood the more stable it is, and the joints are less likely to become loose at a later date. When dry, you must adjust your tenons by turning them down to an exact fit. Complete the finish you want with a damp cloth to raise the grain, and more smoothing with a spoke shave and/or cabinet scraper – use fine sandpaper for a final finish. Then assembly can begin.

The position of the mortice joints must be measured and marked on the components ([Fig. 4.13](#)).

Drill out your mortice joints with a sharp bit and brace, with a colleague or a strategically positioned mirror to watch and make sure you are holding the brace at the right angle (90°). Then turn down the tenons, which by now will have dried slightly oval, either on a pole lathe or with a rounder. A snug fit is what you are looking for, and a dab of wood glue will ensure a permanently tight joint. If your tenons are drier than the wood of the mortice joint, then the mortice will shrink with drying to make an even tighter fit.



Fig. 4.22 Fitting the components together.

Tap the components into their sockets using a wooden mallet, making sure you protect the surface of the wood with some paper or cloth padding. If your joints are accurate then it should all pull together into a regular cube shape with lovely 90 corners.

The legs will require levelling use a flat surface, such as a table, placing the stool on it with slips of wood or card under the legs until it is level. Now take a measuring block and use it as a template to mark a line on all four legs; cut this excess off each leg and the stool will stand steady on all four legs.

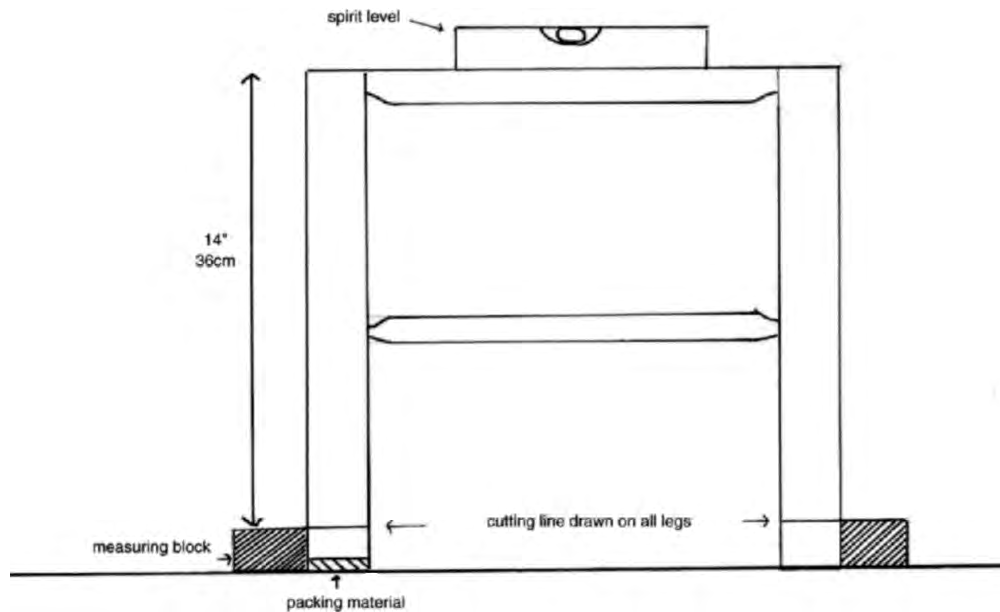


Fig. 4.23 How to level the legs of your stool.

ELM BARK SEATING

Elm bark is harvested in the spring when the sap is rising (April/May). Young trees from 6in (15cm) diameter upwards are felled and the trunk left long up to the first branch. Lift the trunk up onto two trestles to have it at a comfortable working height. Remove the woody outer bark with a drawknife taking care not to damage the inner bast layer.

Score down the length of the trunk with a sharp knife, trying to keep a steady hand and a straight line. Then score a second line 1in (2.5cm) away, parallel to the first. This does get easier with practice. Now prising the bast away from the inner wood, pull the strip free rolling it up as you go. Repeat this process until all the bark is harvested. The rolls of bark can now be hung up somewhere dry and airy, and stored like this until ready to be used.



Fig. 4.24 The bark is soaked in hot water to make it supple, and woven in a herringbone pattern with all the weaver's knots hidden underneath.



Fig. 4.25 Take a simple stool frame and having trimmed the elm bark down to a taper, tie it to the higher rail.



Fig. 4.26 Keep tension on the bark while winding it around the stool, making sure there are no gaps.



Fig. 4.27 When you get to the end of the piece of bark you will have to join a new piece with what is known as a weaver's knot on the underside of the stool.



Fig. 4.28 Trim down the end so that it is tapered and prepare the new strip in the same way.



Fig. 4.29 Make loops on the ends of both the pieces and link them together as shown; then tuck the short end of the topmost loop under and round and back through the loop in the original piece.



Fig. 4.30 Draw up the knot tight with gentle pressure and pushing as well as pulling; although strong, elm bark can snap if there is a bit of a fault caused by knots in the wood.



Fig. 4.31 The knot should be flat and hidden away. Continue like this until you have covered the stool completely, then take the bark around the side rail and head back the other way.



Fig. 4.32 For a lovely herringbone weave pattern you should start with 'over two, under two' all the way across the seat. Do the same back again underneath the seat as well.



Fig. 4.33 The second row start 'over one, under two', and so on. Press the bark tight up against the first row and keep pulling it tight.

The last rows will be tight and may need a bit of persuasion with something blunt like a spoon handle. The end is simply tucked and held by the previous row. The bark, when dry, can be oiled thoroughly with linseed oil and even polished with a wax polish which is buffed up with a shoe brush to achieve a burnished finish.



Fig. 4.34 When you run out of bark join in a new piece underneath as previously described.



Fig. 4.35 The third row is 'under two, over two', and the fourth, 'under one, over two'. Repeat the pattern until you can fit no more rows in.



Fig. 4.36 Finished stool.

FREE-FORM CHAIRS

Gudrun Leitz

Gudrun Leitz is a free-form chairmaker who comes from the tradition of Windsor and Welsh stick chairs. She has her home and workshop on a ten acre holding in Herefordshire, close to Clissett Wood as mentioned earlier.

She started her working life as a teacher of modern languages, but in the early 1980s she attended a women's building skills course in Camden, London. This set her in the direction of manual skills and to a furniture course at the London College of Furniture, then furniture design and construction in Bristol, where she first came across the concept of green wood-working. In the late eighties she attended a greenwood chairmaking course, taught by Tim Wade at his Woodland Skills Centre near Builth Wells. She was invited to run women's courses from his base and to help Tim with his courses. Still based in Bristol she was offered the opportunity by Mike Abbott to run some courses from his

setup outside Bath, and she ended up sharing a brochure with him.



Fig. 4.37 Gudrun Leitz describing her chairmaking techniques.

Her big break came in 1993 when she was commissioned to make 500 pole-lathed balustrade pieces for the restoration of the Globe Theatre in London. She sourced all the oak timber for this job herself often cleaving them, with help from various assistants, from trees which were donated, but in inaccessible sites. Really clean, large butts were the best as this resulted in so little waste. It was as a reaction to this mammoth task of precise and repetitious wood turning that she developed an interest in free-form chairs, taking marginal timbers, utilizing the natural shapes and 3D curves in the wood and shaping them with side axes and draw knives, rather than on a lathe, to create more sculptural forms.

In 1994 Clissett Wood came up for sale and Gudrun moved to Herefordshire. She ran courses in the wood for the building of a green oak cruck barn with Henry Russell (one of the country's leading timber framers), and became inspired by vernacular timber building – a style that is evident in the old granary with a Victorian oast house, which she and her partner Doug have converted to live in.

These days her time is divided between running courses (which are always

oversubscribed) from the barn in Clissett Wood, making chairs and tables for commissions, as well as the three galleries that exhibit her work. She is drawn to garden structures, arches and sculptural work, although she insists that none of her work is rustic but all cleft, shaped and worked to a finish with hand tools – a style of her own that she describes as ‘elemental’.

Not entirely a purist, she will use a chainsaw for crosscutting and sometimes for roughing out a shaped piece. As her chairs are mainly based on the Windsor chair model her seats are mostly from elm that is milled into planks and the seat cut out with a jigsaw or turning saw. She has to travel further afield to find elm these days – even as far as Scotland – and has taken to using planked ash for courses as it is a little easier to work. She does not favour the tendency of some chair makers to shape seats using an arbortec (a power tool akin to a chainsaw which can be used to shape wood), and enjoys adzing out her seats and finishing by hand.



Fig. 4.38 Yew chair using natural forks for spindles.

Elm is particularly prone to woodworm and for her large tables, she has the timber kiln dried to deter the beetles; for smaller pieces her secret method is to put them in a large chest freezer. This has the dual benefit of killing woodworm and slowing down the seasoning when the wood is to be worked

green.

Many of her chairs incorporate steamed components, a process carried out in the wood with a steamer, and the wood held in shape in jigs made for each individual job.

Components are then dried in various ways – on courses at speed, in a purpose built wood-fired drying chamber, or at home slowly in a cabinet warmed with a light bulb if time is not an issue. Tenons receive targeted drying by arranging components on the central heating pipes in her house. She does not use moisture meters but can gauge by experience when the wood is ready for assembly.

On her courses and in her workshop, cordless drills are not available; mortices are drilled with brace and bit, and tenons cut with an Ashem craft rounder. Assembly is a complex process as the two-way curves of a free-form leg must be positioned by eye with the help of mirrors, and when the tenon is cut, angles for mortices are set individually for each leg with a sliding bevel.



Fig. 4.39 High stool with burr elm seat, brown oak legs and shaped fork.

The fitted legs are wedged with oak that often has been stained black with a mix of rusty wire wool or nails and vinegar.

Finishing, particularly on the seasoned timbers of table tops, may well

involve a rotary sander with the wood repeatedly wetted to raise the grain. Other components will be smoothed with an inshave and a cabinet scraper, a process that is repeated with the wood wetted to raise the grain. Treatment will be discussed with clients, but Gudrun favours walnut oil as it does not yellow the wood like linseed oils. Tables may be coated with ecological wax/oil such as Kunos by a German company called Livos. She does not use any stains or dyes but recommends letting outdoor products silver over time, or use products with a UV filter keep the colour of the wood true.



Fig. 4.40 Free-form chair with elm bark seating.

Gudrun can be found, somewhat infrequently these days, demonstrating her work at woodland shows but mostly her work is to be seen in galleries in Pembridge, Monmouth and Much Wenlock. The best way by far to experience her skills is on one of her nine-day chair making courses. Seeing her hold eight or more complex and individual projects in her head while coaxing novices through to the ultimate creation of a unique piece of furniture is inspiring indeed.



Fig. 4.41 A Windsor chair in elm. Maker: Isis Rowan.

STICK CHAIRS

In the second decade of the twenty-first century, stick chair making is proving popular once more. The beauty of making chairs from sticks is that you can use material that isn't top quality or is a by-product such as peeled oak. The natural shapes can inspire truly beautiful and sometimes quite novel chairs. Modern stick chair making is now being practised all over the UK, in many different styles.

As with many greenwood products, there are a few basic rules but the design can be very much your own. A basic understanding of the physics of how a chair works is useful; this sounds complicated but it is simply about the bracing of the legs and a few angles. The height must be comfortable for the intended user. Nothing is more wearing than having your legs dangling with your feet not quite on the ground. Then the chair legs will normally be braced with some form of stretcher or rung which pushes the legs apart and holds them firm against tension. Seats can be dead level and backs bolt upright or a more relaxed posture allowed for, with a slight tilt on the seat and a gently angled back.



Fig. 4.42 Stick chair made by the one of the authors.

Materials

The easiest species with which to make your first stick chair is probably hazel. The best is slightly overstood hazel as this provides material of larger dimension than that which is in rotation – 10–15 year old hazel is ideal. Hazel also has a lot of variety in terms of stems on each stool and also sometimes in bark colour and pattern, and this can be exploited in your chair. Other species are also fine but are often a bit plainer – for example, ash or sweet chestnut. Chairs can also be made from birch, alder, oak or sycamore. Completely green material can be used, but it is usually better to use sticks that have been stored under cover for a few months – this makes them harder to work but reduces the amount of twisting and cracking when the chair is taken into a centrally heated building for use. Stick chairs require no cleaving or turning, but time should be taken to select the right material for each component.



Fig. 4.43 Using forked wood to good advantage.

The back legs should be slightly splayed outwards if possible; equally, the front legs, if not splayed, should at least be facing outwards – this helps to distribute the weight when it is sat upon.

The back of the chair is one area you can be creative with. Rail designs can include vertical or horizontal sticks, or Y-shaped branched sticks to create a candelabra effect to the chair back. You can experiment with different-coloured bark, bark on or bark off, different species, spacing of the rails, and so on, to make something really eye-catching.

Make your components

Once you have decided on all the right bits of wood, the next stage is to make them into actual components. Each piece should be cut to length; this takes a lot of concentration and thought: measure twice and cut once (although if you make a mistake, there is usually another stick available). Have a tape measure to hand so you can keep measuring your pieces as you visualize the completed chair. A good tip is to have another chair to hand, or some good photos of other chairs; this keeps fresh in your mind the basic dimensions of a standard chair size, and is a good reminder of what you need to make a robust chair design that will survive being sat upon many thousands of times. The chair can

have a minimum of one front, one back and one stretcher on each side. To make a stronger chair, two stretchers will be needed on the front and back.



Fig. 4.44 Components of the chair laid out on the ground.



Fig. 4.45 Using a greenwood vice to hold the wood steady while cutting.

Many designs of stick chair leave the bark on all or some of the components; this is particularly effective if your hazel or birch has an attractive natural state – sometimes bark can be purple, or an attractive light brown, white or can have a silvery sheen, and it is nice to make the most of these

features. If you've decided to remove the bark, then this is done on the shave horse with a drawknife. You don't have to remove every last piece of bark – individuality and character is the key for these chairs. However, if you prefer a more refined feel, then a spoke shave will give you a smoother finish. When you are satisfied with your components, it's time for the next stage.

It is possible to make all your tenons by hand with a drawknife or even on the pole-lathe, but for consistency of size, especially for the beginner, and to save time, a tenon cutter is the best tool to use. This can be used on either a power drill or a traditional brace; these are expensive tools, but have to be one of the modern innovations most loved by greenwood workers because of the time and energy they save. All your stretchers need to have a tenon on each end, and if you have decided to use sticks as the chair seat, these will also need a tenon at each end, as well as the seat sides. Try not to make your tenons too long; if they are long, they will all show when the chair is assembled and this makes it look rather odd – as well as reducing its strength.



Fig. 4.46 Peeled hazel chair by Edward Acland.

Before you make the mortices on the front and back legs and seat sides, carefully measure where each mortice is going to be drilled. As with most chair and stool designs, the side stretchers should be staggered along the length of the leg with the front or back stretcher, and not meet at the same place; this

makes for a strong construction. Don't drill for too long or you will drill through the stick; although these pieces are meant to be relatively rustic and individual, this is not going to look good! It is important to make sure you drill at the correct angle – usually 90 degrees; if the drilled mortice hole is at a jaunty angle, the components simply won't fit together.

Assembly

Now comes the really tricky part. Assemble the components that make up the back. Components that fit really well need no glue, but to be safe, just a little wood glue is a good idea. Next assemble the front legs and their stretcher(s). If you are using sticks for the seat, now assemble this. This will leave you with three main components – front, back and seat, with the seat sides and side stretchers to add. This is where it really is useful to have an extra pair of hands.



Fig. 4.47 Assembly of the chair with judicious use of a hammer.

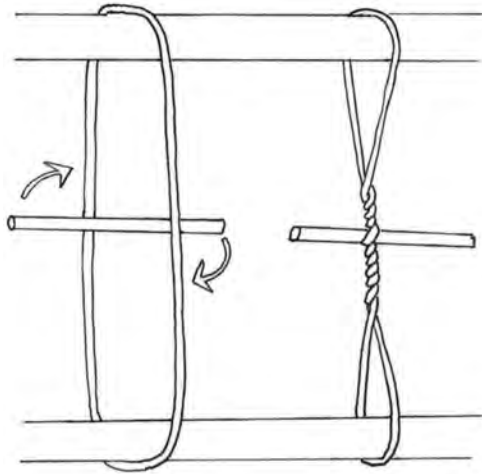


Fig. 4.48 Spanish windlass.

Assemble all the parts, gently knock them together with a mallet, with a dab of glue in each remaining joint, and then tightly strap the chair together. This can be done with ratchet straps, or use a Spanish windlass (some strong string twisted with a stick – see [Fig. 4.48](#)) to help draw the chair together and make the joints really tight.

One word of warning: if you tighten the straps too much, or your straps are unevenly placed, mortices that are deep can be pushed through by the tenons. This can result in either just an unsightly joint with the tenon sticking through the resulting hole, or complete failure of the whole thing with multiple component breakages.

Seating

The finishing depends on your own preferences. If you want a really up-market finish, the components can be held together by pegging with dowels, but this will add a lot of extra work to the project. Check the chair for wobbles – you might have to pay some attention to the bottom of a leg or two to remove small differences in leg length and remove the wobble. A little sanding to finish any shaved components, and some attention to the stick ends with a sharp knife will help these to look more finished and remove any sharp edges. A very light oiling will help some woods, and will slightly darken the colour of lighter-coloured woods.



Fig. 4.49 Using sisal twine for seating.

BENTWOOD CHAIRS

Dave Jackson

Dave Jackson has a coppice business in Malvern, Worcestershire. He produces firewood and charcoal, but specializes in hazel hurdles and rustic chairs. He started his business about ten years ago coming to it via a job with special needs children, whom he took out to the woods to make bent stick chairs under a woodland shelter.



Fig. 4.50 A Welsh stick chair by Isis Rowan. In 2002 the Arts Council for Wales gave Isis a grant to support her making Welsh stick chairs and she has developed a contemporary interpretation of the traditional style.



Fig. 4.51 Bentwood chair by Dave Jackson.

His design for the chairs came originally from Daniel Mack's *Making Rustic Furniture* (Lark Books, 1996). Dave's passion is about using everything he cuts in a coppice to its best potential. Hence the rustic chairs which can be made from derelict hazel coppice. He does have to go and select the 'perfect' rods for making the curved arms and seats, but is keen to advocate that people

buy their hazel from someone who has the woodland's overall good management at heart.

The benefit of selecting rods from derelict coppice is that the rods are not too tapered and are long enough to bend right around the back of the chair while still being thin enough to flex, and they will have the telltale silvery bark of slow-grown hazel. The rods are cut green but kept for two to four weeks to cure; they are still usable up to two months old but after that become difficult to use. You can use freshly cut wood but one of the disadvantages is that the bark is vulnerable to damage when it is sappy and soft, and as the overall look of the chair is dependent on the bark colour and texture, it is a pity to risk damaging it when hammering or cutting.



Fig. 4.52 A bentwood bench in its natural surroundings. (Photo: Dave Jackson)



Fig. 4.53 Side view of the chair framework.



Fig. 4.54 The first bent rods in place.



Fig. 4.55 A choice of designs for bentwood chairs. (Photo: Dave Jackson)

To make the chairs you start with the framework, which can be made from green or seasoned hazel wood, although seasoned is harder to work with. The legs and the stretchers are cut to length and then nailed together. Dave works with his product on a bench so that there is not too much bending down. In true rustic style he uses annular ring shank nails for which he drills a guide hole before hammering home. Any protrusion of the nail at the back is cut flush with a hacksaw. The side sections are then joined together with the cross members at front and back. It is important to get an angle on the seat section so that the finished seat is not level but sloping backwards for comfort. The seat section also is wider at the front and tapers narrower behind. This is partly aesthetic but is also crucial in the positioning and final shape of the bent hazel rods.



Fig. 4.56 Dave in his latest greenwood shelter.

You will need thirty rods plus a few spares. The first rods to be applied are the arms, which are tucked behind the front rail and eased gently up and back until the ends rest on the back rail. Hazel is a most flexible wood when green but treat it with extreme care and caution, coaxing it into the desired curve. Make sure they are bent to shape before drilling and fixing into place with a nail, as the drill hole will weaken the rod and possibly cause the rod to break or kink. You should repeat this procedure with four more rods, making ten in

total.

Then fix the rods that will form the back of the chair. If you are going for a round shape, make sure the rods are bent evenly on a lovely symmetrical curve. If your rods are not quite as long and even as you would like, you could go for the gothic look with a high cross over centre back. Five rods complete this section.

The seat rods are the last to be fitted. Choose an uneven number, so that there is not a rod in the centre back that would be uncomfortable against the spine. Some designs have fancy cross -overs, but do consider the comfort of the chair as a top priority. A smooth curve will be the most user-friendly if you are to avoid masking the beauty of the chair with cushions. Fix these rods at the front first, taking great care with the bend at the back of the seat, which is the most acute angle you will bend on the chair and so, is a danger point for the rods fraying or breaking. The taper on the seat will bring the rods closer together at the bottom back, and then allows them space to flare up to be fixed behind the five curved rods of the back.

The chair is almost complete and will just need ends trimming and nails cutting off carefully. Dave prefers to finish his chairs with linseed oil that has been thinned. He is not convinced that it penetrates the protective hazel bark, but it does bring out the wonderful colours of the wood.

Dave makes the chairs to order, or guides groups through making a chair of their own on his two- or three-day courses.

CONCLUSION

In this chapter we can only give a small taste of the variety and skill shown by chairmakers in Britain today. We acknowledge the talent and inventiveness of all makers of greenwood chairs, whether the chair is a one-off for your own pleasure or the fruit of a life-long passion.

Chapter 5

Greenwood Baskets

Baskets are defined as containers made of interwoven strips of pliable materials, such as cane, straw, thin wood, or plastic, and often carried by means of a handle or handles (Harper Collins, 2003). This book is about greenwood working so we will not be looking at cane, raffia and straw or indeed plastic. Even so, the choices of materials that could be described as thin wood are immense. Willow is the first that comes to mind and the material of choice for many of the traditional baskets in Britain. We will only touch on the vast pool of talent and skills that is represented by the wide membership of The Basket Makers' Association (*see [Further Information](#)*) by visiting one of Cumbria's favourite basket makers, Phil Bradley.

We spoke to Helen Elvin who is an exponent of the creative craft of hedgerow baskets using all types of plant material including dogwood ivy and honeysuckle. Less obvious in terms of native woods is the use of hazel for baskets; there is however a fine history of strong and sturdy vessels being made from this ubiquitous woodland shrub. Irish basket maker Joe Hogan is the leading exponent in this field and we have included some of his work to demonstrate the versatility of hazel for basketwork. Intrepid readers can have a go at making a hazel creel as this is described in detail.

So far we have looked at what could be described as twigs but mature trees provide a range of basket materials from the roots (spruce being regarded as one of the best) to the bark, both outer (birch) or the inner bast (elm and lime) and, of course, the wood itself which can be riven down into the finest of lathes for weaving as our section on the only full time swill basket maker in Britain, Owen Jones, will describe. We will be looking at yet another style of basket – the trug made by Robin Tuppen, and finally, Devon splint baskets.

WILLOW BASKETS

Phil Bradley

Phil Bradley came to Cumbria from Scotland in the early 1990s; he had a

background in forestry and took up a job with the Groundwork Trust. He remembers attending an event at Ness Gardens near Liverpool, which was all about willow growing and its uses. There his eyes were opened to what previously he had seen as a ‘bit of a weed’. He was particularly taken by the work of the basketmaker David Drew who had recently moved to France. There followed a period where Phil would save up his annual leave and head to France, to work alongside David, and hone his passion for willow baskets. David was unique among basketmakers in being keen to grow his own wood, and felt that one should teach using only the very best quality materials. He had a lovely collection of willows that he harvested and graded himself.



Fig. 5.1 Willow lantern by Phil Bradley.

Phil came back to Cumbria filled with enthusiasm to make baskets, at first as a hobby, but increasingly more seriously. Having his hours cut at work gave him the impetus to really make a go of being self-employed and to make a living at baskets. For Phil, growing willow was always an important element of his business.



Fig. 5.2 The willow beds being harvested.

Phil has seven willow beds; January and February are spent cutting on good days and grading and bundling on wet days, until the barn and yard are groaning with willow. The coarser willows may be cut with a brushcutter; however, mostly he uses a bill hook, which is better for the health of the stools. The aroma of the wood and the bounty of the harvest excites and inspires Phil to dream up new projects.

Phil aims to make 700–800 baskets a year, 90 per cent of which will be from willow with the bark on. He does a small number of stripped willow baskets but this is very labour intensive and he is ambiguous about the results. The runup to Christmas is the busiest time and he will inevitably run out of one size of willow and have to wait for the January harvest, especially for the large log baskets. Log baskets, shoppers and storage baskets form the basis of Phil's business but he is commissioned to do one-off projects for schools or sculptural work for private gardens. He feels his work is grounded in the English tradition but influenced by the more elegant French style.



Fig. 5.3 Some baskets by Phil Bradley

For Phil the rhythm of the work and the seasons, the close connection with the land and feeling of being just a very small part of a vast system are what feed his passion. Every couple of years he goes on a course to broaden his horizons, although he keeps coming back to the familiar products that flow from his hands without any stress or strain.

His customer base is full of faithful returnees who love his work and will always think of baskets when buying a gift. He shies away from a website that would perhaps undermine the essentially local nature of his trade. Attending a couple of shows a year is all that he needs to bring in new customers.

HEDGEROW BASKETS

Helen Elvin

Helen Elvin has been developing her basket-making skills since graduating as a Bill Hogarth Memorial Apprenticeship Trust (BHMAT) apprentice in 2009. She has an artist's eye for the sculptural qualities of willow weaving and loves to experiment with other materials in her baskets. Here, she describes the stages for making a hedgerow basket that anyone can have a go at with materials found in the garden.

PLANTS SUITABLE FOR BASKETMAKING

honeysuckle (*Lonicera periclymenum*)

ash (*Fraxinus excelsior*)

hazel (*Corylus avellana*)

willow (*Salix* sp.)

holly (*Ilex aquifolium*)

dogwood (*Cornus sanguinea*)

ivy (*Hedera helix*)

larch (*Larix decidua*)

heather root (*Calluna vulgaris*)

wisteria (*Wisteria sinensis*)

periwinkle (*Vinca minor/major*)

bramble (*Rubus fruticosus*)

beech (*Fagus sylvatica*)

blackthorn (*Prunus spinosa*)



Fig. 5.4 Helen Elvin making a stick and strand basket on a willow base with holly and dogwood.



Fig. 5.5 The start of the weave.

Take some green whippy twigs – willow, hazel, dogwood or ash and carefully bend them to make a circle, as round as possible. Trim the thicker end with a knife, to taper it so that where the two ends overlap the circle will not be too bulky. Wrap a fine rod or withy around to secure the two ends, tucking the end in so that it does not unravel. Press the circle to make it as symmetrical as you can. Form a second hoop the same size as the first and insert one at right angles inside the other, to form the start of a sphere. It is best to prepare these hoops in advance and allow them to dry for a couple of weeks, so that they are less likely to be pushed out of shape by the weaving. Bind these two hoops together with a fine rod or withy, with a neat crossing pattern as shown in [Fig. 5.5](#). Make sure the overlap on the handle hoop is in the bottom basket section.



Fig 5.6a Detail of the weave.



Fig 5.6b The finished basket.

Form the ribs of the basket with four more sticks – these can be split or may be round, as you wish, but the ends must be whittled down so that they can be secured within the weaving that you have already started. Pay attention to getting the shape right by ensuring that each rib is of an even length. Continue to wrap the weaving material in and out of these ribs, pulling tight as you go and pressing the basket into shape as it grows.

For a large basket, more ribs can be added as you go; you do not want too big a gap between the ribs on the base of the basket. Work both sides alternately to keep the symmetry of the basket as it grows.



Fig. 5.7 Willow melon basket with stripped dogwood God's eye binding pattern by Jonathan Ridgeon.

When you have nearly finished there will be a restricted space to weave in so use some of your most flexible material here and carefully pull it through until the weaving is packed tight. It will always loosen up a little as the material dries and shrinks. Trim off your cut ends neatly on the inside with secateurs or side cutters. The basket will always be a little rounded on the base but it makes a fabulous container for gathering fruit and vegetables from the garden.

CREELS

Joe Hogan

Creels are the working baskets of Ireland and western Scotland. One of the greatest exponents of basketmaking in Ireland is Joe Hogan. He has researched exhaustively the history and variations of this form of vernacular craft. His book *Basketmaking in Ireland* (Wordwell, 2001) details the many and varied forms of the creel and is an essential read for anyone interested in baskets. Many creels are made from willow but there is a long tradition of making chunkier, robust baskets from hazel.

The creel is often used in pairs as panniers for a donkey or pony. The D-shaped creel with a hinged bottom, known as a pardog, would often have been used this way. The hinge would allow quick release of the load without having to remove the creel from the back of the beast. Peat and seaweed were just two of the most common loads in this type of basket.



Fig. 5.8 Fermanagh-style hazel creel made by Paddy Leonard. (Photo: Joe Hogan)



Fig. 5.9a Pardog with a hinged bottom. (Photo: Joe Hogan)



Fig. 5.9b The pardog with its hinged bottom open. (Photo: Joe Hogan)



Fig. 5.10 Woven fish traps are found in many styles and locations – this one from Co. Antrim is made from two- to three-year-old hazel and would have been used for catching crabs. Made by Joe Hogan based on the ones made by the Gault brothers from Dunservick. (Photo: Joe Hogan)



Fig. 5.11 Hazel frame Boyne coracle made by Joe Hogan. (Photo: Joe Hogan)

Coracles were made in Ireland up until the 1940s when the last Boyne coracle maker Michael O'Brien was filmed making a hazel frame boat. The Boyne coracle was six foot (180cm) long, and was covered in a large cowhide. Two people would use the boat, one kneeling in the front to skull and one at

the back to manage the nets. Salmon were caught this way, but the nets were banned in 1947, which brought coracle fishing to an end in Ireland. There has been a revival in recent years with the Boyne Currach Centre set up by Claidhbh Ó Gibne at Donore, County Meath.



Fig. 5.12 The creel mould.

Make a hazel creel

Creels are made in a similar way to coracles, that is, upside down, and often the rods are pushed straight into the ground to be held when weaving. A more regular shape can be obtained by making the creel on a mould as the uprights are less likely to be pushed out of line. Traditional donkey creels are frequently 24in $\times$ 18in (61cm $\times$ 46cm), and, if made of willow, would have stakes or uprights in pairs and three at each corner. Hazel is better used singly and needs to have a spacing between each stake of 4in (10cm) therefore, the basket described here measures 24in $\times$ 19in (61cm $\times$ 48cm). Take a sheet of plywood and draw a rectangle 24in $\times$ 19in (61cm $\times$ 48cm), then mark out where the uprights will go. They need to be evenly spaced with four rods on the long side and three on the short side, plus four corner rods; eighteen in total. Choose strong stakes for the corners.



Fig. 5.13 Hazel suitable for creel making.

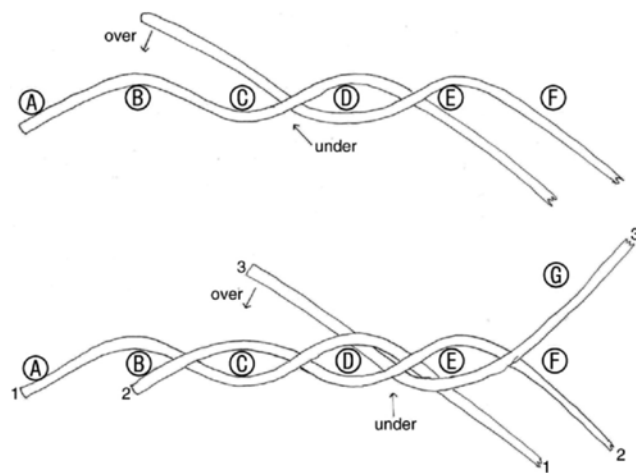
The holes are drilled with a 20mm drill and the board nailed to two lengths of sawn timber to keep it off the ground.

Having assembled the mould and a few tools that are required, such as a strong pair of secateurs, a rapping iron or mallet to knock down the weave and a bodkin or screwdriver, it is time to find the hazel. Densely stocked hazel coppice where the rods are very drawn up is the best place to find ideal rods for making creels. The silver-coloured stems that have grown up from the hazel stool and struggled up to the light, are long and thin and very pliable. They have many annual rings inside which give strength and have little taper which is great for weaving.

Though it is a joy to behold when grown well, in-rotation hazel that is being coppiced regularly on a seven- to nine-year-cycle, is often fast-grown, thickens up quickly and frequently has a reddish hue, which is a tell-tale sign that the rod will be a bit brittle. It pays to be choosy and find the very best rods for your basket. Traditionally these were cut and seasoned for at least three weeks.



Fig. 5.14 Creel stakes inserted and tied at the top.



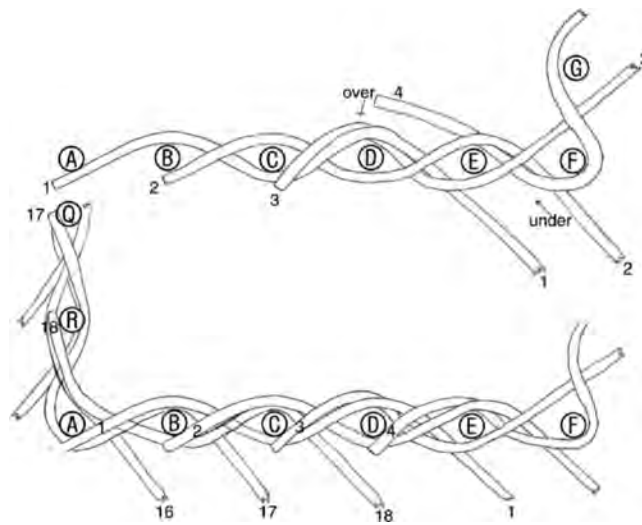


Fig. 5.15 a Start the mouth wale; b Mouth wale round to the end and then finish as shown.



Fig. 5.16 Mouth wale complete.

Firstly, the uprights need to be no more than 0.75in (20mm) diameter; then the weavers should be thinner still – 0.5in (15mm) at the very most and as long as possible. Find fifty of these. Cut the uprights to 5ft (150cm) and keep the top ends as extra weavers.

Insert the thick end of the upright rods into the form. If your upright rods are a little thick to be inserted in the holes on the form, then shave down the ends so that they fit snugly but not too tightly, and are held in an upright position. Gather these rods together leaving the corner stakes free and tie a string around them to encourage the walls of the basket to taper inwards.

Trim up eighteen of your thinner weaving rods and place them in between each upright to form a weave that is known as mouth wale. Rod 1 goes between stake b and c, behind d and in front of e; the butt is then pulled through to rest in front of a. Rod 2 is slid under 1 between stake c and d, behind e and in front of f; the butt is then lifted to rest in front of b, on top of rod 1.

Rod 3 is slid under rods 1 and 2 between stake d and e, behind f and in front of g; the butt is lifted to rest in front of c, on top of 1 and 2. Continue all the way around the basket, taking care on the corners, twisting the hazel until the fibres separate to get it to turn 90 degrees without cracking. When you get to the final three rods make sure that they are underneath the butts of rods 1, 2 and 3.

There will now be a weaving rod sticking out between each stake. The next row is woven using a basketry technique known as French randing. This is a weave that takes each rod in turn and goes behind one rod and back out again, each time moving one rod to the left, moving around the basket in a clockwise direction. When the round is complete, change direction and, working anti clockwise, take the rod between stake a and b, behind c, in front of d. Take the rod between b and c behind d and in front of e. Now you will find two rods between c and d; make sure you take the rod below and bring it up and round, which forms a tight twisted weave.

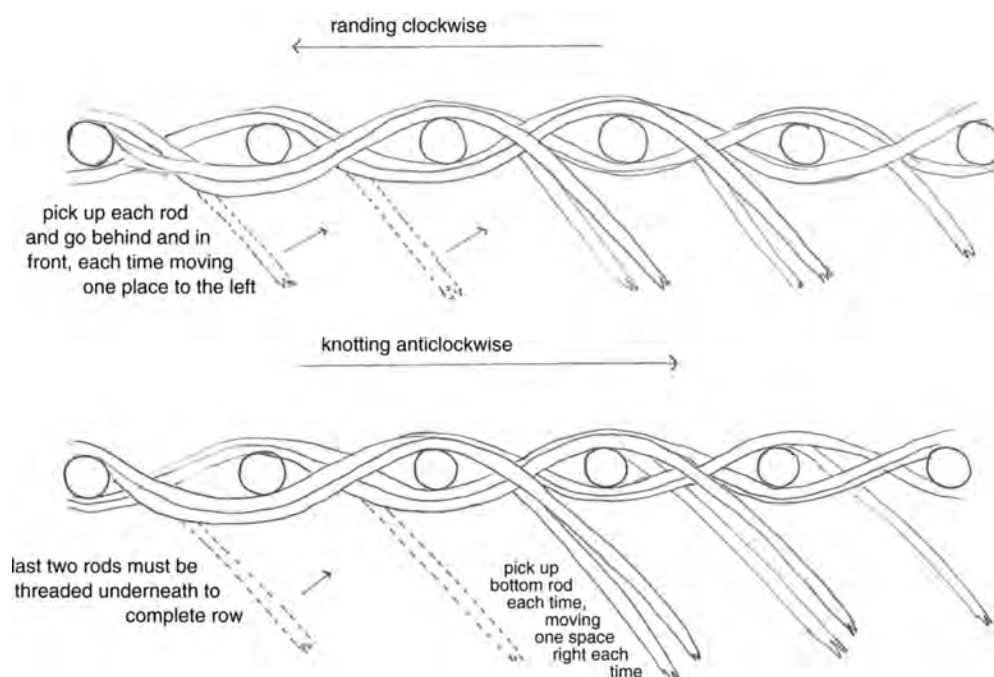


Fig. 5.17 Randing and knotting on alternate rows.

Keep moving round the basket in an anticlockwise direction, always picking up the bottom rod, until you get back to the beginning when you will have to thread the ends of the last two rods under the first two to make the pattern complete. Then French rand back round clockwise and alternate these two rows until the rods are used up. As you work remember to use your rapping iron to hammer the rows down tight and pay close attention to keeping the stakes vertical and just slightly tapering inwards. You should keep the stakes tied together at the top until the first set of weavers are used up.

Traditionally, creels have a window known in Gaelic as *an t-áis* (pronounced 'on tawsh'). Before you create this, it is a good idea to have a strong row of three-rod waling. Insert three rods, butt first, into the gaps

between a/b, b/c, c/d. Take the first rod and go in front of b and c and behind d. Rod 2 goes in front of c and d and behind e and so on, always moving in an anticlockwise direction and always in front of two behind one. When you are halfway round the basket, stop and set three more rods off butt first and do the second half. When you are back to the beginning, you can continue over the top of the first set of three until the rods are finished, then do the same with the second three.

The eighteen rods to make the window are now inserted, each pushed down vertically into the weave to the right of the stakes. Bend the rods over to the right, aiming to have the window no more than 4in (10cm) deep, take the rod in front of one and behind the next stake (French randing). When you have gone all the way around the basket and you are happy that they are all at the same level, then do your knotting row as described before and continue alternating until the rods are done.

TWISTING HAZEL

To turn a 90-degree corner you may need to twist the hazel a little to separate the fibres within the wood, allowing them to move against each other and not break. This twisting makes the rod look a little bit like rope. It is one of those techniques, like riding a bicycle, that takes a bit of practice and perseverance; it also needs a firm grip and some strength to get the rod to twist. A tip is to use gripper work gloves that give you a better hold on the rod and to get your best hand up close to the part you want to twist; with the other hand find a kink in the rod that will allow you to get a better purchase and use it almost like a starting handle to get the rod twisting. If you find you do not get on with this, Joe says ‘just make the corners rounder’.

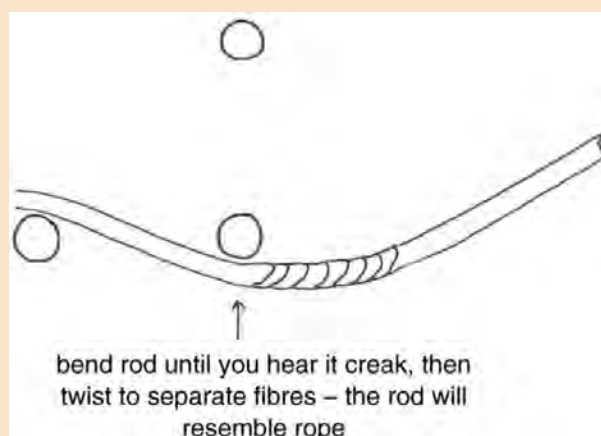


Fig. 5.18 Twisting the hazel to make it go round a corner without breaking.

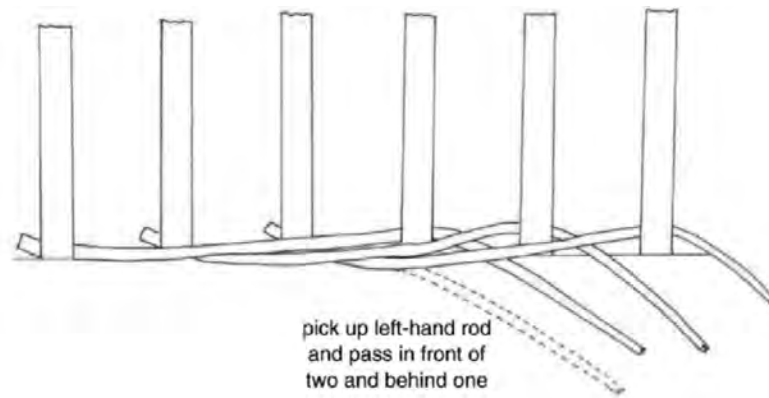


Fig. 5.19 Three rod waling to make a strong base to the an t-áis.

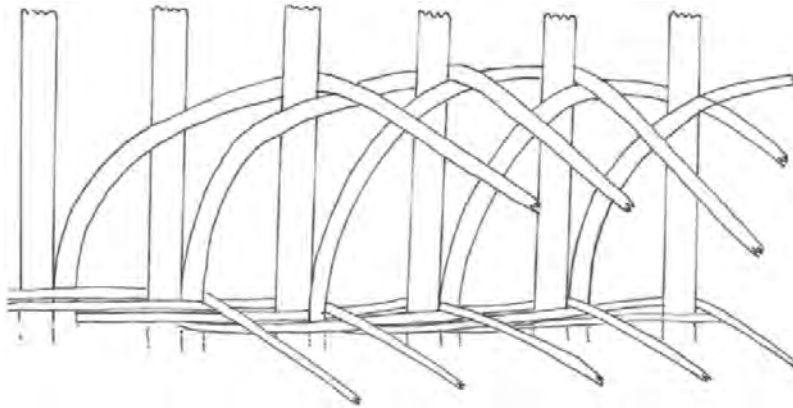


Fig. 5.20 Lift the rods to make the 'window' but keep them even all round.



Fig. 5.21 The an t-áis in place and more randing and knotting.



Fig. 5.22 Three rod wale to make a strong top knot.

If your weaving rods are long then you may feel that all it requires is a row of waling to bring it up to the correct depth. If you need more depth, then a third set of eighteen rods can be used. You need to finish on a row of three rod waling, as this will create a strong ‘top knot’ for the creel.

Creel base

To form the base, the upright rods must be bent over; it is not easy to bend hazel through 90 degrees without it breaking so now is the time to perfect your hazel twist.

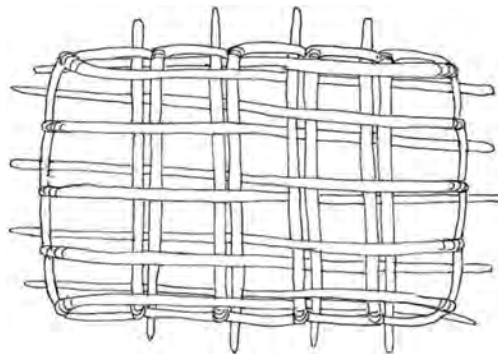


Fig. 5.23 Creel base before trimming.

First, bend the four rods that form the long side and the four opposite. These rods form pairs and the tip of a rod from one side must be tucked under

a row of weave on the other side. The rods may need cutting to just over length, so that they can be inserted into the weave without too much trouble. Then the five rods on either end of the short sides must be bent down. With a willow creel it is possible to interweave the side rods with the end rods so that the base of the basket is really strong. Hazel is not really pliable enough to do this, but try to go over two and under two.



Fig. 5.24 The stakes folded down and woven to make the base.



Fig. 5.25 The creel finished.

If you can pull a few finer rods through from one side to the other, weaving it through as you go, this will add to the base's strength. Traditionally willow

was used for this, even in hazel baskets.

When you are satisfied that the base is strong and the gaps filled in you can start trimming the rods with your secateurs.

Prise the basket out of the form and turn the right way up. The upright rods can be trimmed down leaving a good 1in (2.5cm) above the weave and the rods all trimmed close inside and out.

BIRCH BARK POTS

Jonathan Ridgeon

Jonathan Ridgeon describes himself as a 'Bushcrafter'. He is based near Nuneaton in the Midlands, and has a degree in fine art, but his passion is for nature and making things. He is entirely self-taught and has learnt through trial and error and experimentation with what works and what doesn't. His main inspirations are nature and Ray Mears, who is largely responsible for the revival of interest in survival skills.

Jonathan makes superb birch bark containers. Birch is used throughout northern latitudes, and few who saw it could forget Ray Mears making a birch bark canoe in Canada. Birch bark varies in thickness according to the climate in which it is grown. As a rule of thumb, the colder the climate, the thicker the bark is likely to be. This is the reason that something as substantial as a canoe can be made from bark in Canada as the bark is very thick because of the intense winter cold.

The birch bark can be collected at any time of year but it is easiest when the sap is running from around March to August. Of course, if you harvest bark from a living tree, it will probably die; it is best to harvest bark from trees that have been felled for their wood. To make good containers, the bark clearly has to be removed carefully and with skill, as bark that is too thin or with holes in, is useless. Tall containers require wider pieces of bark to be collected. Bark is quite variable, so one tree could provide much more suitable bark than another one close-by. Ideally, the lenticels (the horizontal markings on the bark) should be small, as this helps to ensure the finished product is robust and reduces the likelihood of the bark tearing during making. To help remove the bark, score

around the log with a sharp blade, as wide as the container is deep that you plan to make. Use your peeling iron to remove the bark but be very careful, as you will have to throw away damaged bark; you can use a knife to help part it from the layers underneath. The tars in the bark act as a natural preservative, which means that the bark is virtually waterproof and requires little preparation before use and no finishing.



Fig. 5.26 Finished pot with interlocked finishing.

The bark is best used fresh as once it is too dry, it ravel into a very tight curl and it is difficult to make it flexible enough for use. Cut the bark to shape with a very sharp knife; a steel ruler makes a useful cutting guide. The shape of the container really depends on the size and quality of your bark. The bark should not contain large knots, as these will be weak spots, and also they will detract from the look of the pot.

For thinner bark, such as that found in the UK, the strip of bark should be long enough for the container to be two layers of bark thick, along with a substantial overlap where the pot will be sewn together – this area will be three layers thick. Once you have cut the strip of bark to the right length, you need to gently rub what was the outside of the tree with your thumb to remove the very outer layer of often algae-covered bark – this usually comes off freely. The bark naturally curls inside-out and this natural characteristic is used when

making the pot – so the outside layer of the tree becomes the inside of the pot, and vice versa. If you are going to use the container for food, rubbing off this outer layer makes the inside of the pot clean. When the bark has been rolled to form a cylindrical pot shape, clip or peg it so it stays in shape.



Fig. 5.27 a Coil of birch bark pegged together; b Stripping the bark off the spruce root; c Riving the spruce root into two.

There are several methods of joining the two ends of the bark strip. Perhaps the easiest is to use a material for stitching; Jonathan uses spruce roots. The thin bark of the root can be stripped easily, the roots are long, with little taper, naturally durable and dry quickly. In Britain in the past, the processed fibres from stinging nettles, the inner layer of willow bark or small leaved lime, or other roots would have been used as the spruces aren't native.

Once the bark has been stripped from the root (Jonathan uses a cleft holly stick he calls a brake) the tiny pips where the small roots join the main root are removed with a sharp knife. Then the root is split using the same techniques as are used with other split materials. The root is very slightly sticky and smells strongly of resin.

An awl or bradawl is used to make holes through the bark and the root is threaded through; sometimes it may need to be sharpened so that you can push

it through the hole. You can use small sections of dowel to keep the holes for the stitches open. Start with equal lengths of string through each side of the stitch at the top of the pot and work your way down, threading with both ends in whatever pattern you like – the usual one is a simple cross pattern. At the bottom, cut any remaining end short and tuck the end under a stitch; the root will dry quickly and become very hard.

The top and bottom can be made of any wood as long as it is fully seasoned to avoid shrinkage and cracking as the wood dries. All you need is a small section of a trunk or branch carefully cut, with the cut surfaces sanded to show off the annual rings. Draw around the birch pot on the base or lid blank to get an approximate size and cut or shave off any excess wood, checking regularly for fit. The bottom should be knocked into the bark cylinder providing as tight a fit as possible. The top should not be as tight; it can be chamfered so that the underside has a smaller diameter, making for a snug fit. Don't try the lid on too tight before you put a loop on, otherwise it will be nearly impossible to remove.





Fig. 5.28 a Making holes in the bark with a bradawl prior to stitching; b Stitching with the spruce root.

Jonathan likes to use natural materials for a handle – these normally consist of a simple loop. He likes string (cordage) made from lime bark inner fibres or bast, but leather is a good alternative. Any type of strong string would be adequate, but it's better to have something sympathetic to the other materials. Drill a hole in the centre of the lid and thread both ends through the hole to make a loop. You can tie a knot to keep the handle in place or make a small wedge from a surplus piece of wood and knock this between the two ends of string until it is as tight as you can get it, taking care not to split the lid; the remains of the wedge and string can be neatly trimmed off with a sharp knife. This results in a really pleasing finish without the risk of the knot coming undone inside the pot. The top of the inside roll of bark should be trimmed with a sharp knife at this stage to help the lid fit snugly.



Fig. 5.29a Knocking in a hawthorn to secure the pot base; b Detail showing the peg holding the cordage in place for the handle loop.

The base of the pot is usually very tight but a final flourish that Jonathan likes is to use another natural material to hold it in place, just in case. He has a ‘cockspur’ hawthorn in his garden; this has very long spines, sometimes an inch or more long. Make a hole with a thin awl through the base of the bark to meet the wooden bottom and hammer in the thorns; when they are in as far as they can go, they will probably break and can then be trimmed off. The long thorns aren’t really necessary, and you could use ordinary hawthorns, blackthorns or even crab apple thorns.

Another alternative would be to glue the base in place. This is a good way to ensure a really watertight fit; a top quality pot made with the best materials should be watertight. There is really no finishing required, apart from a coat or two of a light vegetable oil on the lid.

Jonathan is just starting his business and though he has not sold many pots, he is a stickler for precision and quality and is already an accomplished maker. The containers are functional and versatile, and can be used to hold all types of food, or as a desktop pen holder, a spare button pot or paperclip pot. The pots are very durable because of the natural preservative in the bark.

These pots are a delight, and make wonderful gifts. Making your first batch of birch bark pots will be quite time-consuming but well worth the effort and the results will be a real talking point.

If you use all the natural materials mentioned here, you will need quite a lot of patience to get it right. There are, of course, many variations: you could make short fat ones or tall thin ones – or even short thin ones or tall fat ones! Jonathan also makes pots with interlocking bark fingers so that no stitching is needed at all, but these are much harder to make well.

SWILL BASKET MAKING

Owen Jones

Owen Jones is Britain’s only full-time swill basketmaker. Owen was taught the art of swill-basket making in 1988 by John Barker, one of the last swillers of

the area at the time. In its heyday, swill-making needed a five-year apprenticeship; Owen was taught the basics by John Barker and learned the rest through demonstrating at shows and lots of practice. A variety of people inspired and helped him along the way, including his father-in-law who made the original introduction to Mr Barker, and Walter Lloyd, who introduced him to work going on at Beamish Museum in the North East and to the first Hay Bridge Weekend in the Woods event.



Fig. 5.30 Owen Jones, Britain's only full-time swill basket maker.

Owen still remembers his first sale when a lady from Lowick Bridge walked past the workshop and bought one of the first swills he made. Owen told me that back then, he couldn't even imagine that he would still be making and selling swills in over twenty years' time.

Swill basketmaking is a south Lakeland speciality – where the industry was concentrated in an area bounded by Ulverston, Broughton-in-Furness and Coniston to Newby Bridge at the southern end of Windermere, although there were swillers working in the 1970s in north Lancashire with Stella Kenyon and Mary Ullrich (*née* Barratt) also keeping swill-making alive. The only other similar basket in Britain is the oak spale basket of the Wyre Forest in the West Midlands. There are similar designs over many parts of Europe, including France, Italy and Slovakia; in the Mediterranean areas, these are usually made of sweet chestnut.

Traditionally, swillers had their raw materials delivered to them and this is how Owen started out. However, when the only remaining local coppice merchant, Bill Hogarth, died, Owen had to begin cutting his own oak. This is one of the special aspects of the craft that Owen enjoys – he carries out every stage of the making, from felling the tree right through to selling. While Owen's swills are always made of oak, ash, larch and small-leaved lime have also reputedly been used. Trees of 6–7in (15–18cm) in diameter are ideal; these trees are about twenty-five years old.

Only the sapwood is used to make swill baskets. At this age, oak has a large amount of sapwood, compared to heartwood; it is sometimes almost two inches thick. Although Lake District oak has a reputation of being shaken or cracked (which renders it useless except as firewood), at this size, it is almost never shaken. Having said that, each tree is different – some are a dream to cleave and others can be very fibrous and difficult; Owen says he has given up trying to predict what the wood is like within a given tree as it is completely unpredictable. The oak is normally cleft when green – Owen likes to use the wood within two weeks of felling, although it could be cut in January and used in March, for example. Once riven, it will keep for several months. The wood can vary in colour, from a light golden brown through to a richer chocolate brown. He has been sourcing his oak from Stony Hazel Wood, Rusland, owned by the Lake District National Park Authority. He has about two years

left in this wood and is concerned about his future supply as there is little oak of the right size nearby; because of a lack of woodland management, it is now all too big.



Fig. 5.31 Shaping the taws on a swiller's mare.

Swill baskets are essentially made up of three components; the taws are 6ft (180cm) and 4ft (120cm) in length and the spelks are 2ft (60cm) long. So, the oak is cut into six-, four- and two-foot lengths, each oak stem being cut according to where any branches or knots might be, to get the most out of each. Each log is halved and then quartered using a froe and knocker – the froe is locally called a ‘lat axe’. Depending on the size of the wood, it may be split again.

The cleft wood is then placed in a boiler – similar in dimensions to a horse trough only with a lid. Usually the wood is boiled, left to stew overnight and then boiled again before being removed a piece at a time, to be riven. The hot, steaming pieces are held between protected knees and split using a riving knife and a small knocker. Once started, these can be pulled apart – riven or torn – with the hands again and again until they are the right thickness. The spelks are generally a bit thicker than the taws as they form the ribs of the basket. Owen reckons that one boil makes about twelve baskets.

The spelks are then dressed on a shave horse using a drawknife. These shave horses are substantial, sturdy pieces of equipment known in the district as a swiller's mare. The taws are made thinner and smoother by the dressing,

and are tapered at each end. The taws are dressed on a leather knee-pad with a knife; the knife is held firmly in position while the taw is then drawn back through, shaving off the excess wood as it goes.



Fig. 5.32 Swill spelks ready for use.

The taws and spelks are now ready to be used. They can be stored for many months and will dry out if stored; soaking in cold water overnight prior to use can rejuvenate them.

The bool, to which the oak spelks and taws are attached, is usually made of hazel, about 1in (2.5cm) in diameter, although ash or rowan was sometimes used. The bool is dressed so as to remove any twigs or bumps, and it is shaved flat with a drawknife along one side; the ends are tapered so they fit together when bent into a hoop. The bool is steamed before bending; Owen uses a former to get the right shape hoop, but many of the old-style makers could bend the hazel over their knee and get to the right shape simply by eye. The bool is fastened into shape with a nail and then shaped in a set-horse so it is slightly dish-shaped.



Fig. 5.33 Forming the bool with steamed hazel.



Fig. 5.34 Starting the basket with the lapping spelk.

Once these materials have been prepared, the basket can be made. Each spelk and taw has its own name. For a 22in (55cm) basket, there is one lapping spelk, two first bottom spelks, two second bottom spelks, two first turn-downs, two second turn-downs, two top spelks, two kessens and two bool spelks. The taws are called knot taw, slipping-on taw, wide bottom taw and finishing-off taw.

The lapping spelk is the first and longest piece. The basket is made from the centre of the sides of the bool, building downwards to the bottom. In this book, there simply isn't space to explain the basket's construction in detail; Mary Barratt's book (*Oak Swill Basket Making in the Lake District*, 1983) gives more detail of how it is put together, but it is hard to get hold of now. There are several quite complex knots, and each spelk and taw is finished in its own individual way. The final taw is the one that runs lengthways along the bottom of the basket to fill in the remaining gap.

The finished product was traditionally tested for strength by being placed upside down on the ground, and stood upon by the maker. These baskets are incredibly strong, robust and long-lasting – they are after all, made of oak. Some are reputed to have been in daily use for up to fifty years; sometimes Owen is asked to repair one; the author's one has been in daily use as a log-basket for ten years and virtually the only sign of wear is a polished handle.

There are some variations – kidney-shaped swills were made for carrying seed when sowing – these fitted snugly on your hip in the field; there are also round and shallow baskets. A variation of Owen's is the pannier style. He is occasionally asked to make panels to act as screens using the oak laths (as described in [Chapter 6](#)), but he is reluctant to take on too many of these commissions as they use a lot of material that then isn't available for making baskets. Outdoors, these aren't as durable as one might think; indoors, they retain their colour and will last forever.

SWILL BASKET SIZES

20in half peck
22in li'le nick
24in gurt peck
26in gurt nick

The volume of the swill doubles from the half peck to the gurt nick.



Fig. 5.35 Finished swills.

Owen has run many courses over the years, with over 900 attendees and only a small handful have dabbled with the idea of taking it up as part of their greenwood/craft business. Perhaps the only way to appreciate the art and skill of making a swill basket is to go on one of these courses. Owen is an accomplished teacher and his three-day course is a delight. When you leave Nibthwaite on the shores of Coniston Water with a completed swill basket, you feel a great sense of achievement.



Fig. 5.36 Showing off at the end of a swill basketmaking course, with one of the authors at top left.

TRUGS

Robin Tuppen

Robin began making trugs with his brother, Peter, when both brothers decided they wanted a change in direction in life, twenty-nine years ago. They began their trug-making business with a product that was made from plywood, invented by Peter's father-in-law, which attracted a Design Award and is known as the South Down Trug. This trug is still made today, but Robin's real passion is for the trug made from traditional materials.

Trug-making originated in the Sussex village of Herstmonceux during the 1820s. Thomas Smith took an older, solid-carved vessel known as a trog, and redesigned it to use the materials still used today. The main advantage of the new design was that the basket was very light; also, the raw materials were readily to hand locally.

Trugs were designed specifically for farm and garden use, and were sent all over Britain by train in considerable quantity from Sussex. Their popularity was boosted early on by royal approval when Queen Victoria bought some of Smith's trugs on the first day of the Great Exhibition in 1851. Robin's company still holds Victoria's royal warrant to this day – hence the description 'Royal Sussex Trug'. Trugs were so important to the farming economy that trug making was a reserved occupation during the wars.

In 1989 Robin's company took over what was left of the original Smith family business and the company is now known as the Cuckmere Trug Company and Thomas Smith's Trug Shop. Robin's son, Chris, makes most of the traditional trugs with help from Andy and apprentice, Mike.

The Royal Sussex Trug is made with sweet chestnut for the handle and rim, and cricket bat willow for the slats making the base and sides. The willow is, in fact, a by-product of the cricket bat-making industry. The willow arrives by the lorry-load from a bat-making company, and is a grade that isn't good enough to use for bats. It arrives as slats, which need to be sawn to the correct

width and length. Other poplars and willows have been used (and even horse chestnut), but they are generally too brittle for regular use to make a basket of the right quality.



Fig. 5.37 Trug board patterns.



Fig. 5.38 Cleaving the trug bats.

The sweet chestnut is purchased from local coppice workers. The poles are called trug-bats or cooper poles, and are normally sourced from the lower section of the trunk. The coppice is cut between eight and twelve years old, and the first eight feet is used, or up to the first large knot. The top sections are usually too brittle to use. Generally, only the outer layer of the bat is used, as

the idea is to keep the bark on. The remainder isn't wasted, as it is used to heat the workshop; in former times, it was used to heat the water for steaming the material.



Fig. 5.39 Making the handle with steamed chestnut being bent around a former.

The only other material used, apart from copper nails, is softwood for the feet; this is currently bought in from Sweden as FSC-certified blanks, but they could easily be made on a shave horse.

The trug is made of four components: the handle, the rim, the slats and the feet. As in most of the trades where the product is made up of a variety of components, these are usually made in batches. The rim and handle are always put together to form the frame and stored as one component.

The handles are made by splitting the chestnut by hand using a cleaving axe or froe. This is made into the correct dimensions by shaving it with a drawknife; the handles are steam-bent into the right shape; each size trug has its own sized handle, and these are made by shaping it around a pattern or former when the chestnut has just come out of the steamer. The rim is made in the same way. They are fastened together using galvanized nails. A steel girder is used as a base for nailing so that the end couple of millimetres of each nail bends over and beds into the chestnut to keep it in place.



Fig. 5.40 Nailing the boards to the rim.

The willow is traditionally shaved to the right dimensions but nowadays the slats are planed before being finished on a shave horse. The slats are also steamed and bent over a brake to attain the correct basket shape. This makes them more flexible and stops them splitting during assembly. As there are many different sizes of trug, many different sizes and shapes of slat are needed.

Once enough components have been made to make a batch of trugs, they are assembled. It would take about one and a half hours to make all the components and assemble them, but because components are made in batches, actual assembly is quicker – at fifteen minutes. If the materials are not fresh from the steamer, they are soaked in cold water. This makes them more pliable, allows the maker to easily trim them and to fit the frame, and stops them splitting when tacked to the frame. The trugs are made on the maker's lap on a making horse. The boards are nailed to the rim and handle using solid copper tacks. The legs are then attached to complete the trug, using copper clout nails. The slats are finished by trimming with a Stanley knife so they are flush with the top of the rim. The handle is burnished to make it more comfortable to use. Each trug is signed by the maker and given a unique number.



Fig. 5.41 Copper nails are used as they don't rust.

Traditionally, there are twelve sizes of garden trug, varying in size from 10 × 5in (25 × 12cm) to 26 × 14in (64 × 35cm). The No. 4 trug traditionally holds one gallon and the largest – No. 8 – four gallons. The flower trugs are shallower, for collecting cut flowers, while there are bowl and square designs, which are ideal for fruit picking. There are also three sizes of firewood log basket, a cucumber trug and an oblong trug. Robin has improved on a design that incorporates a walking stick, so that the basket is located just under the stick handle. This a great idea for those people who still enjoy being in the garden but struggle to get on their hands and knees. The four largest sizes are not now made as they were for farming use.

There is a range of trugs with the bark stripped, another range made from the plywood and yet another range with the handle and rims painted in pastel shades. In all, there are over one hundred different varieties and sizes, and several hundred combinations of sizes, varieties and colours.

There are only a handful of trug makers now. Robin has no plans to retire yet but hopes that his son Chris will carry on when he does. Happily they also have an apprentice learning the craft. Robin says that the business only just breaks even, despite the flourishing export trade that he has developed. They are currently working with a group of London designers on some new trug-related products and plan to increase the export trade even further.



Fig. 5.42 Finished Sussex Trug.

DEVON SPLINT BASKETS

Devon splint baskets are sometimes known as maund baskets, although the maund is regarded by some as a particular size of splint basket. The origin of this isn't clear but it is thought that small baskets may have been used to collect alms distributed by the king or queen on Maundy Thursday.

Splint baskets may have originated around the same time as trugs – a great demand being created by more intensive agriculture and industry; however, some people think that the craft may have ancient origins. This is one of the crafts that almost died out for a decade or two, before gradually being revived more recently. Nevertheless, there are still hardly any makers of these baskets.



Fig. 5.43 Devon splint basket by Les Brannon.

A splint basket does not have a woven construction as many of the references would lead you to believe. This basket is made of a flat, solid bottom with splints or staves making the basket sides, and hazel, ash or sweet chestnut rims and handle. Splint baskets are light, but not as light as trugs, and being rather more robust, they tend to have a longer life. They have traditionally been used for collecting apples, potatoes and onions, but clearly could be used for carrying many farm and garden crops; in modern times, they could also be used around the house and garden for a multitude of things.

The handle is normally hazel but could be chestnut or ash. It is made by shaving the ends to fit snugly between the splits and against the rims; it can be cleft or left in the round. It is steamed to get the correct shape and tied with string or left in a frame to retain its shape as it cools and dries. The bark is normally kept on. The rims may also be steamed and this is the safe way to bend them but often green hazel will bend without snapping. The top rim should be cleft from a hazel rod 48in (122cm) long and the bottom rim should be 46in (117cm) long. This pattern has a top and a bottom rim but traditionally, there would have been a middle hoop as well, and the bottom rim would have been tin or copper meaning a longer life for the basket. The rim ends should be shaved to a taper to ensure a close fit.

The splints can be made from many woods; traditionally, ash would probably have been the main species used, as it is light and quite robust. Sweet chestnut makes excellent splints as does oak and these woods are more durable, but heavier. Lighter woods to use, which are also fairly durable, include Douglas fir, larch and western red cedar; other conifers could also be used if you can cleave them easily enough.

Cleave an ash pole about 5in (13cm) in diameter until you have cleft sufficient pieces to make 22–24 splints. For this pattern, the splints should be cut to 8in (20cm) long and then shaved in the shave horse to about 0.25in thick (0.5cm); cutting to the right length first avoids extra work in finishing splints that are too long and then need to be cut down to size later. They don't have to be perfect but try to avoid leaving any splinters that will come off eventually when the basket is being used. Each splint needs to be slightly tapered, that is,

a little wider at its top than the bottom. The splints should be slightly chamfered at their base to fit snugly against the basket bottom.

Next you need to make the base. Again, this can be made from many timbers, but elm is undoubtedly the most durable, and also resistant to rot resulting from the basket being put down on wet ground many times; however, many other woods are fine: ash is a good alternative and most softwoods are lighter. The base can be sawn for speed and shaped using a jigsaw, or cleft, shaped and finished by hand for those who prefer a truly hand-made article. The thicker the base, the heavier the basket will be; a thickness of 0.5in (13mm) should be about right and will take the nails easily without splitting.

Now you are ready to assemble the basket. Use galvanized nails to resist rust, although copper nails look more attractive. The nails should be hammered through from the outside, using a girder or anvil as a base on which to hammer, so the tacks bend over (clenching) to form a strong fixing. Nail the handle and rims together, followed by two end splints to begin to make the rigid basket. Fix these to the base, then nail on the remaining splints; a little extra shaping may be required, especially when you get to the last few. If you have made a middle hoop, pull it up over the base and nail it to the splints from the outside not forgetting to clench the nails. If the splints are well made with straight edges, they should fit together nicely and this makes for a very neat looking basket. Of course, these were utilitarian items – made to be used and worked hard – so if they don't fit seamlessly together, don't worry; some types of splint basket were made with gaps between the splints to let soil fall out, or, if used for harvesting seafood, to let water out.

The splints can be trimmed with a sharp knife so they are flush with the top of the rim and the handle can be sanded to make it comfortable to use. No further treatment is needed and your splint basket should last a couple of decades if treated kindly.

CONCLUSION

Baskets are one of the many greenwood craft items that will not only give you joy through making them but also further injections of daily satisfaction and happiness as you use something you have made yourself.

Chapter 6

Garden Structures

Using greenwood items in the garden may seem a relatively recent phenomenon; however, up until the rise of the garden centre and the popularity of the bamboo cane, all the gardener's needs would have been produced from local woods. The Victorians were passionate gardeners, and their legacy continues with the plethora of local gardening and horticultural clubs that continue to thrive to this day. Raising the awareness of these groups to the value of supporting local businesses is vitally important, providing the coppice merchant with a ready market for a variety of canes, stakes and poles.

Adding value is very important and the greenwood worker can be really imaginative when it comes to designing bespoke items for the garden. Whether it's running wattle fences, cleft fences, arches, pergolas, garden furniture, bridges, gates, trellis or sweet pea stands, they can all be unique and purpose-made for the home or for sale. There is only limited space available, so in this chapter we focus on a selection of popular greenwood structures.



Fig. 6.1 Detail of hazel trellis, peeled and painted.

TRELLIS

There are many types of trellis that can be fashioned from wood for your garden. These include the ubiquitous structures of sawn tanalized softwood that are sold commercially, usually nailed together and treated for longevity. You may have a desire for a more natural and organic product and these can be as simple as hazel roundwood poles lashed together with string and replaced every other year or so as the wood crumbles and breaks, as untreated hazel is prone to do. The basic principles of all trellis is to create an attractive structure that plants can be tied to or climb up to create a beautiful display, adding height and perhaps screening in the garden. They are especially useful to create privacy on a boundary or to hide an unsightly wall or fence. The basic hazel trellis with a relatively short lifespan is ideal for annual climbers but is less handy for perennials that will remain growing *in situ* year on year. In this section we are going to show you how to make the Rolls Royce of hazel trellis that will be attractive and sturdy for many years.



Fig. 6.2 Seven-year-old hazel in rotation, ideal size for trellis poles.



Fig. 6.3 Peeled hazel trellis pole.

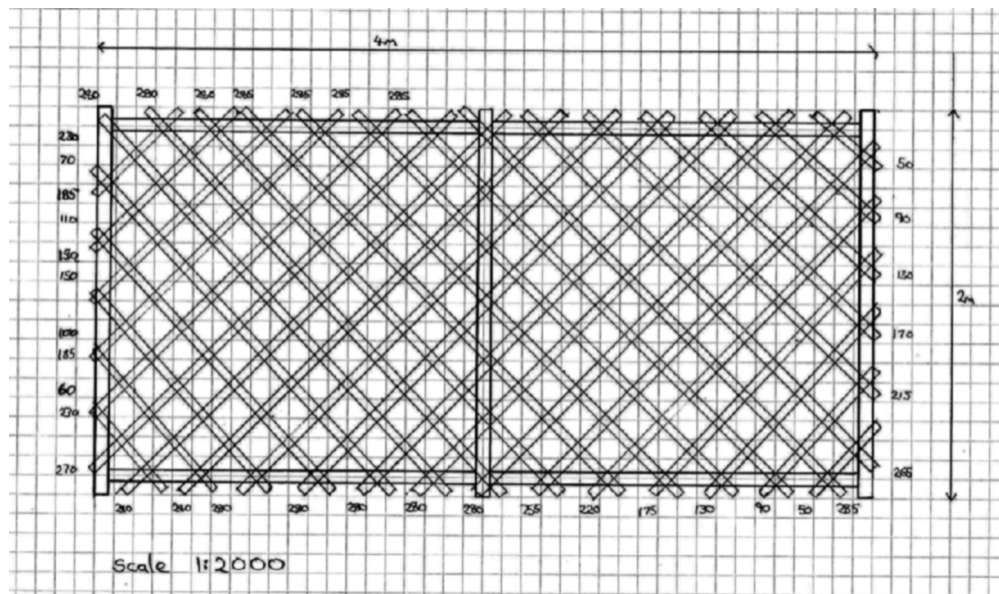


Fig. 6.4 Draw your plan on graph paper; here each small square represents 2in (5cm) and the length of the trellis poles can be read with a 1:2000 scale rule to find the measurements in centimetres.

Peeled and painted hazel trellis

This trellis was designed by a landscape designer and has been used in a number of prestigious garden schemes in south east England. The basic material is peeled hazel poles, 0.75–1.5in (20–40mm) in diameter. To peel hazel it is essential to cut it when the sap is rising although it will peel successfully in almost any month from leaf break (end of March) to leaf fall in November. The poles are selected from coppice stools, five to seven years old, and should be as clean and straight as you can find. With hazel it is less important if there is a gentle curve as this can be straightened out but serious doglegs or forking is harder to work with.

Cut only as many rods as you can peel in one session as, although in peak sap flow they will keep for a few days, it is so much easier when they are really sappy and fresh. Working from the thick end to the thin, start stripping the bark off with a blunt knife. You do not want an implement that will scar the wood by digging into it. When all the bark is removed, stand the rods up somewhere under cover but in good air flow to dry out. Without the bark this is remarkably quick and the rods are ready for a quick sanding after a few days or a week.

Sanding is an optional stage, but what you will find is that the inner bast of the bark is rather sticky and will leave the rod looking a little ragged, especially when the peeling is taking place at the beginning or end of the season or the rods have been cut a while before peeling. Scrape the rod with the blunt knife – or give them a brisk rub down with sandpaper, or a product called Arbortec, which is tougher than paper and does not get clogged up with the green fibres. Having described the preparation of the rods you will soon realise that you don't want to be peeling any more than is necessary for your project in hand, so this is where some graph paper and a scale ruler comes in handy so that you can draw an accurate scale picture of the finished trellis and measure the exact length of each rod (with a little extra to spare), making yourself a cutting schedule to work to.

Cutting Table	
Cm	No.
50	2
60	1
70	1
90	2
100	1
110	1
130	2
150	2
170	1
180	1
190	2
220	2
230	2
250	1
270	2
280	10
285	5
Total	38 or 7835cm

Fig. 6.5 Cutting list for the trellis.

The trellis rods are laid out in a traditional diamond formation using 45-degree angles and keeping the rods parallel, taking account of the inevitable taper on the rods. They are fixed down to a framework of hazel poles, which should be thicker, (40–60mm), and also peeled as before. How many uprights you need to include depends on the overall length of the finished trellis. Don't make a trellis any higher than 6ft 6in (2m), as the length of the diagonal rods in

the trellis would need to be over 10ft (3m) long. Working with well-grown hazel in north west England, this is about as long as they come at the required thickness. If you were making a trellis 6ft 6in $\times$ 13ft (2 $\times$ 4m) it would be best to put an extra upright in the middle so that the overall length of the horizontals is no more than 6ft 6in (2m) as well. Do not attempt to make the uprights longer to drive into the ground if the trellis is to be freestanding, as hazel is not good at being in contact with the soil and will rot off at ground level. Make the trellis so that it can be attached off the ground to oak or chestnut or, failing that, tanalized softwood posts.



Fig. 6.6 Peeled hazel trellis frame poles.

Assemble all your peeled rods and poles and keep them sorted by length or even individually labelled in the case of the framework poles; it can get frustrating if you are working with a lot of material and you have to constantly re-measure them to know which bit is which. Now is decision time – the key element of the longevity of this trellis is the treatment with a preservative at this stage. You could use a clear oil or, if you are feeling bold, colour it with a stain. The trellis pictured is painted with a product called Osmo Oil Country Colour Charcoal. It is an opaque paint that allows the texture of the wood to show through but will mask the natural colour. When it is new it is a little bit glossy but this does weather down to a pleasing matt finish.

What you choose is, of course, a matter for your own taste, but a microporous paint is recommended so that the wood can continue to breathe. It is definitely easiest to paint the poles with at least one coat before you assemble the trellis but you will probably want to give the whole thing a final coat after assembly. Three thin coats are better than two thick ones, where the paint can drip and run and take longer to dry out.

It is important that you have allowed the rods to dry out well before painting – they need one to two weeks at least. So much depends on drying conditions though and damp, dank weather can hold up operations. Bringing them into a heated environment is always an option, though it can be a bit awkward if this is your kitchen and you have a lot of rods to dry. Once painted, they are touch dry after twenty-four hours but need three to four days to be properly dry.

Start the assembly with the framework. First clear an area that is large enough to lay the whole trellis out in one go. Draw a line to act as a straight edge or the nominal ground level. Use a T-square and basic geometry to mark out a right angle line. You can check whether you have a right angle by marking out a simple 3, 4, 5 triangle. From the corner, measure along the base line a multiple of, say $3 \times 11\text{in} = 33\text{in}$ ($3 \times 30\text{cm} = 90\text{cm}$), then measure up from the right angle a multiple of $4 \times 11\text{in} = 44\text{in}$ ($4 \times 30 = 120\text{cm}$). The line that joins the two points (the long side of the triangle) should measure $5 \times 11\text{in} = 55\text{in}$ ($5 \times 30\text{cm} = 150\text{cm}$). Adjust the angle until the measurements are correct.

Lay your vertical posts on the ground at a right angle to the base line. Decide in which plane you want to look at them and place accordingly. Mark the centres of the mortice joints, which will be drilled with a 0.75in (20mm) bit; these will be at least 1.5in (40mm) from the ends of the posts. Then create the tenons on the ends of the horizontal rails. The easiest way to do this is to use a 0.75in (20mm) rounder, taking care to hold the drill level to the rail and applying it to either end. The resulting tenon is the exact size to fit into the mortice joint. Alternatively the tenons can be whittled down to size with a drawknife and finished with a carving knife. Keep offering up the tenon end to a template hole, so that not too much is taken off. Assemble the framework when you have completed all the joints, checking that it is still square when

complete.

Now lay out the diagonal poles ensuring that they are running at 45 degrees to your base line. It is a bit fiddly, but the best policy for holding them in place is to drill with a 2mm drill and attach with a temporary nail through into the framework, making sure you leave the nails proud so that they can be easily removed. You can cut the rods to length now or leave to the end to tidy it all up. Make sure they are long enough to allow you to cut to a level edge at whatever extent beyond the framework suits you. You can use a piece of wood cut to length to act as a rough guide to spacing, but beware that the rods are variously tapered, and individual differences will have to be taken into consideration or the angles will be changing as you proceed.



Fig. 6.7. Trellis detail.

When all the rods in one direction are in place, start back in the other direction with the top layer of rods. These can be fixed with their final fixing as you go so you will need a couple of drills handy – one with a fine bit to act as a pilot hole for a screw and another with a 6mm bit to counter sink the screw head and allow a cosmetic peg to be inserted. If it is not too extravagant a suggestion a third cordless drill is great to have here as you can drive the crosshead screws in with a screwdriver bit and save yourself a lot of effort. Take care with the length of the screws as these will vary depending on the combined thickness of the two rods, and you do not want the screws to go right through and stick out the back.

You can adjust the spacing as you go if there is any irregularity in the rods and they may need some pretty tough pushing and pulling to keep the squares a regular size. This really is a two-person job. Not every crossing place needs screwing but remember to countersink all the holes as it will look odd if some are pegged and some not. Where the crossing point coincides with the framework below, use a longer screw and attach the trellis firmly to the frame. Cut all the rod ends square to themselves so as to accentuate the diamond shapes and remember to give the cut ends some extra coats of paint to seal them.

Pegging is laborious but using a square section peg and trimming it so it is proud does look good. You could use round dowel and cut flush if you prefer (this would look lovely if you are using a clear oil finish and you choose a contrasting coloured wood for the pegs such as yew). If you wish to use square pegs then use oak that has been chopped into 0.5in (12mm) blanks and dried thoroughly.

MAKING PEGS

Take a log about 6in (15cm) long. With a sharp pencil and a straight edge mark it out with a grid of lines 0.4in (10mm) apart. Take a strap, a ratchet strap that you might use to secure a load is ideal, and secure this around the log pulling it tight. Start cleaving the logs down the pencil lines running in one direction with a small froe. It takes quite a bit of care and accuracy to keep the froe (which can be sharpened a bit to give it a more accurate edge) in place while striking it with a wooden mallet. When you have cleft it into slices, turn it 90 degrees and chop it up along the pencil lines running the other way. The strap should keep

all the pieces together so that you can do this without too much trouble. Not all your pegs will be perfect and if using oak, you will have to discard the sapwood but this is a quick method of being fairly accurate and can even be used for making kindling, especially if the pegs all go very wrong!



Fig. 6.8 Detail of the oak pegs.

Trim the pegs down to a round profile with a carving knife so that they can be inserted into the holes and fix with a dab of wood glue. Cut the pegs off to a standard length proud of the trellis. The trellis pictured has been finished with a black jute string binding at which point you may be justified in begging for mercy and refusing to put any further finishing touches; however, there is something about the rough string that has a pleasing contrast with the smooth wood. Give it all a final coat of paint before you do the stringing and allow plenty of time for this coat to dry first. It is up to you to find a pleasing form of lashing that will be uniform and neat.

The longevity of this trellis is unknown. Ideally you might take down the plants, clean it up and apply a new coat of paint every six or so years and keep it going indefinitely.

PEELED OAK RUSTIC WORK

Oak poles up to 5–6in (12–15cm) in diameter make fabulous pergolas, arbours

and furniture when they are peeled. It is not a very long-lasting material but you can add to its lifespan with preservative, or if you do not want to interfere with the natural weathering of the material then charring the base of the posts where they go into the ground will extend the life of the posts considerably (*see below*).



Fig. 6.9 Bark peeling using a homemade copper pipe peeling iron.



Fig. 6.10 Peeled oak bark being bundled for sale.

Traditionally the oak was coppiced for peeling – the primary product of this industry was not the poles, although these would have been used for charcoal,

but the bark itself, which is prized for tanning leather. Oak bark is still sold to a tannery in Devon and interest in this product seems to be on the increase again. Peel your poles when the sap flow is at its peak between April and July. You should fell only what you can peel within the day and check the trees for peeling properties before you start because a sticky tree is frustrating to peel. If you are thinning an area of oak, the obvious trees to choose to fell are those that are overstood or are being suppressed by their neighbours, however, these trees will not peel freely. You do need a tree with a good crown of leaves to get a free sap flow which is why coppiced oak lends itself so well to peeling (it should all be growing fast, in good light). When all factors are right (including a warm sunny day) peeling oak is perhaps one of the most satisfying jobs in the woods as the bark slip off like a banana skin with a satisfying sucking noise of wet wood. When you are peeling the tops of the trees, keep some forked pieces as these can be used decoratively in your rustic work.

As with most greenwood projects a good scale drawing of the construction to be made is important so that you can work out the lengths and diameters of the wood required and make yourself a cutting schedule.

Peeled oak bench

The simple rustic bench in Figs 6.11 and 6.12 can be made from any wood, the joints are mainly nailed though equally they could be screwed and pegged. The dimensions are given for a pair of matching seats to go with it so you have no excuse not to have somewhere to relax after a hard day greenwood working.

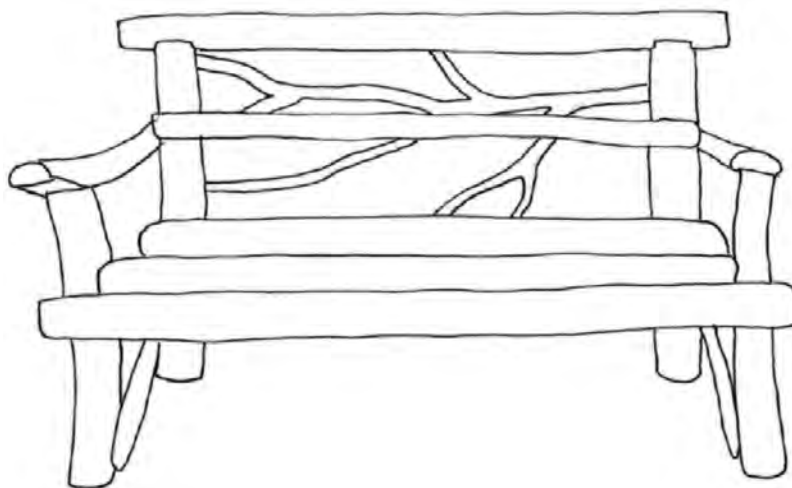


Fig. 6.11 Draw your design for the bench.

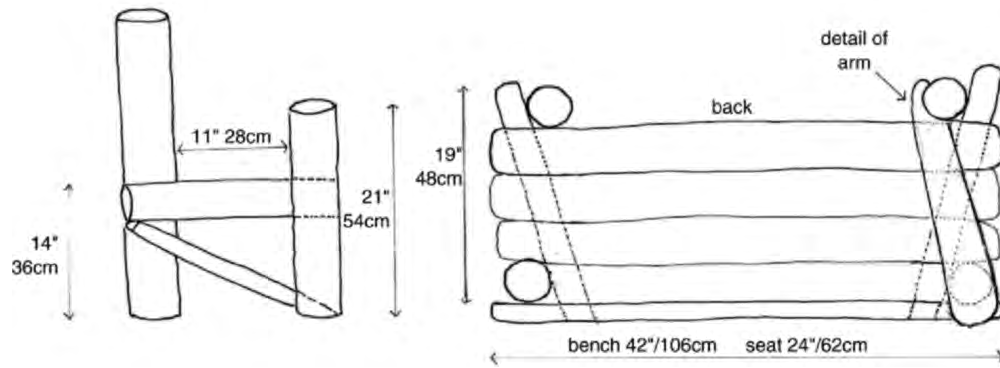


Fig. 6.12 Detail of bench plan courtesy of Brian Crawley.

Peeled oak pergola

You will need: ten peeled oak posts 9ft (275cm) long, 6in (15cm) in diameter; eight poles 8ft (245cm) long, up to 4in (10cm) in diameter, or 4 × 16ft (5m) poles; lots of short pieces 4ft (120cm) long.

This pergola is designed to divide a linear garden into two while retaining a view from the house through to the far end. First mark out the position of the pergola with string and divide the distance up into equal portions. Mark the position of the posts and set them in the ground. It is probably best to judge uprightness by eye as the wood will almost certainly have curves and bumps that make using a spirit level or a plumb-line quite tricky, although a plumb-line (something heavy on the end of a piece of string) suspended from the top of the post will aid you in judging how near to vertical the post is.

Now check the overall height of the posts and adjust if necessary. Using a scaffold platform is the safest way to complete this task. Now you need to fit the top poles along the length of the pergola. There is not much alternative to offering up the poles to the posts and marking with a pencil to get a half lap joint.

Drill the poles and nail with stout nails that are twice as long as the wood is wide. Fix firmly in place. When you have your two horizontal rails in place you can start to fix crossing pieces to maintain an equal gap between the rails. Again, offer up the pieces and mark where they will be nailed and drill. It is great to use your most irregular bits of oak for this with forks and bends that will add character to the finished pergola. Whether you cut the ends to be parallel with the rails or leave them at odd angles and lengths is a matter of

taste. This creates a ladderlike structure that can carry heavy vegetation, such as the wisteria pictured or roses and clematis.



Fig. 6.13 The finished bench made by Brian Crawley.



Fig. 6.14 Peeled oak pergola.

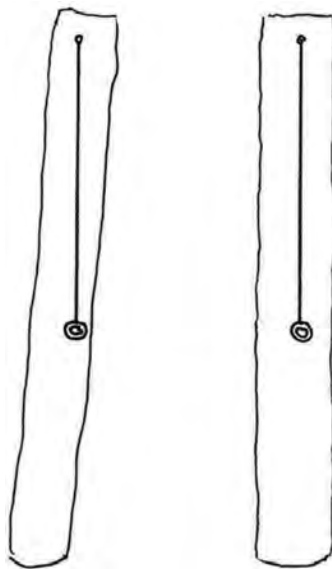


Fig. 6.15 Plumb line.



Fig. 6.16 The pergola with the cross struts fitted.

CHARRING YOUR POSTS

A natural form of preservative that has been utilized since Neolithic times is to char the ends of your post where they are going to be underground. The most vulnerable place for rotting wood is that interface between the ground and the air, where all the conditions (alternately wet and dry) are optimum for wood destroying organisms. Charcoal which, at its purest form is just carbon, does not get attacked by any type of pathogens. It remains inert in the ground for millennia, so if you can get an even coating of charcoal around your post (without any cracks that will let the bugs in) then you have a good chance of the post lasting for a long while. You need a slow fire with plenty of hot embers in which you place the ends of your posts and keep turning them regularly.

FENCING

Riven oak panels

It is possible to make lovely fence panels from riven oak or chestnut laths. For the oak version you use techniques that are described under oak swill baskets in [Chapter 5](#). The oak is quartered and then boiled in a long boiler, which softens the bonds within the wood and allows you to rive it into strips. These fine laths can be woven into a panel using a simple framework of oak and uprights of hazel.



Fig. 6.17 Playground 'Nautilus' by Stan. (Photo: Stan)

WOVEN HAZEL ROSE ARCH

To create a sturdy arch over a gate to take roses or clematis, hazel hurdle weaving can be used. It might be best to practise weaving hazel into flat panels before you attempt this project (detailed in *Coppicing and Coppice Crafts*), but we salute your optimism and enterprise if you decide to try it anyway. Hazel is the most beautiful and versatile of woods, and cut fresh and springy from the woods what better material to fashion into all manner of items for your garden. For an arch 4ft (120cm) wide, 7ft (210 cm) high and 2ft (60cm) deep, you will need approximately four to five bundles of twenty hazel rods of mixed sizes. These will be best cut from in-rotation hazel of six to eight years growth so that you have a mix of diameters from 0.5in (10mm) to 1.5in (40mm) and minimum lengths of 6ft (180cm) to 12ft (400cm) or more.



Fig. 6.18 The hard part is the last few strips, which must be coaxed through with a mixture of pushing and pulling.



Fig. 6.19 Hazel archway in a hurdle fence.



Fig. 6.20 Making your arch in a purpose-made jig will mean less damage to your lawn and will help with consistency of product. This is one that Alan Waters uses to make archways.

Start the project by marking out the shape of the arch on soft, level, close-mown turf for preference. Mark a horizontal base line to represent the ground, then two sides running perpendicular to this. Finally finish the top curve either with something large and round as a template or by using string tied to a peg as a central pivot point and a pointed stick on the other end of the string as a compass to scribe an arc in the ground and to join up the two sides.

Next mark out the positions for the uprights (these will become the horizontals when the arch is lifted up off the ground and into an upright position). They should be evenly spaced all the way from the base line up and over the top of the arch and back down to the base line on the other side. The spacing should be approximately 8in (20cm) up to 12in (30cm), depending on how thin or thick the hazel is that you are going to weave in and out. A compromise would be 10in (25cm) but a bit of jiggling will be necessary as it is more important that the spacing is even, than that it is an exact measurement. When you are happy that you have the upright rods marked out right on the ground, total up the number required, pick out rods that are between about 1in (20–25mm) thick and cut them to 30in (75cm) lengths with a hand saw.

This is the point at which you will need to get your rods organized. Open your bundles and grade the rods so that you put all the thin weavers (ones that

will be woven in the round – anything up to 0.75in (20mm)) in one pile and then the ones you want for uprights in the next pile, and then a pile of rods to split of 1in+ material (25mm).

Depending how soft the ground is, you should be able to push the upright rods down into place. If it is hard ground then you may want to make a hole with an iron bar, but avoid loosening the ground too much as it is best if they are held tightly in place. Because the rods are relatively short and sturdy, a wooden mallet will be all you need to tap them down into place. Do not bury the rods too deeply, 4in (10cm) is fine, or you will have problems getting it out of the ground at the end.

Garden Structures

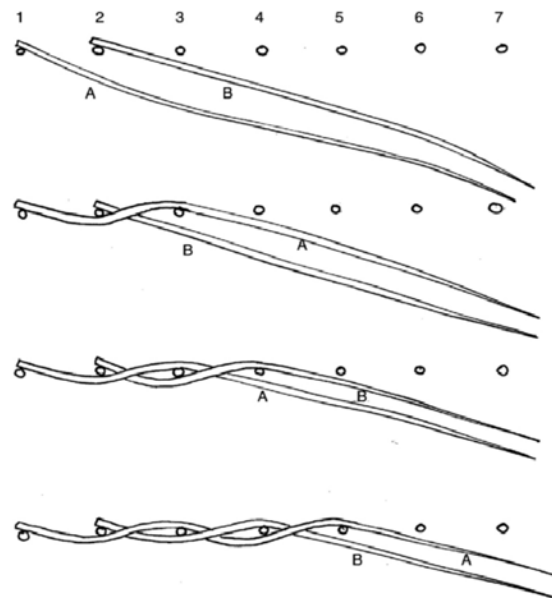


Fig. 6.21 Pairing diagram; always pick up the rod nearest to you.

Now you are ready to start weaving. Pick out two of your thin weavers that are evenly matched for thickness and length. Bend the thicker end by holding it under your foot and forcing the rod to bend, taking care not to overdo it and break the rod. Work your way along the rod until at least the bottom third is forced into a curve. Repeat this with the second rod then, using them as a pair, insert the rods one either side of the base line upright. I think it is best to stand inside the arch as you will be (mainly) starting and finishing the weaving on the inside and you will be able to trim the rods as you go with a pair of loppers. With pairing you always take the rod nearest to you and weave it behind and in front of each consecutive upright.

Make sure that you bend the weaver around the uprights and do not let the uprights be pushed out of place (an extra pair of hands can be helpful here) or use your feet to work the weaver rod and your hands to hold the upright. Work the rod until the end is near and then join in another pair of rods to overlap with the first pair and weave them together as one. When joining in rods half way round the arch make sure you start the rod with the butt on the inside if at all possible. It is usual to start the rods at the butt end but the main consideration is to build up the weaving as evenly as possible so sometimes it will be better to join thin to thin or thick to thick. Overall it should work out more even if it is thick to thin each time.

SPLITTING HAZEL

The easiest and safest way to split rods is to use a splitting post. This is a post driven into the ground until it is really secure then shaped at the top to form a sharp V shape. Using a cleft piece of oak is good for this as you can utilize the wedge shape from a log that has been split into six or eight segments. Put a point on the post and make a hole with a pinch bar then drive the post in with a mallet, taking care not to damage the top of the post. It will need a bit of smoothing and shaping with a small side axe or a drawknife. To split the hazel you will need to get a split running through the centre of the hazel.

First cut the end off the thin end of the rod so that it is clean and square. It is always best to split hazel from the thin end towards the thick, as you are moving into more wood as you go rather than less. Then resting the rod on a block, take your bill hook and place the straight of the blade over the central spot or pith. Very gently tap the back of the billhook with a small wooden mallet and as the split begins twist the blade to open up the split further. The split will want to run off even at this stage, so push the back of the blade against the thicker side of the hazel to make it bend back and this will bring the split back to the middle. When the split has opened up for about 6in (15cm) gently put the rod so that it is either side of the splitting post. Now you can guide the rod through by slowly pushing forward, while using the leverage offered by the solid post to bend the thicker side back each time it starts to run off. Keep guiding the rod until you reach the thick end (where it becomes much harder to control as there is less leverage available) then stand back and admire your two twin rods with the central pith running all the way through. It will come with practice.

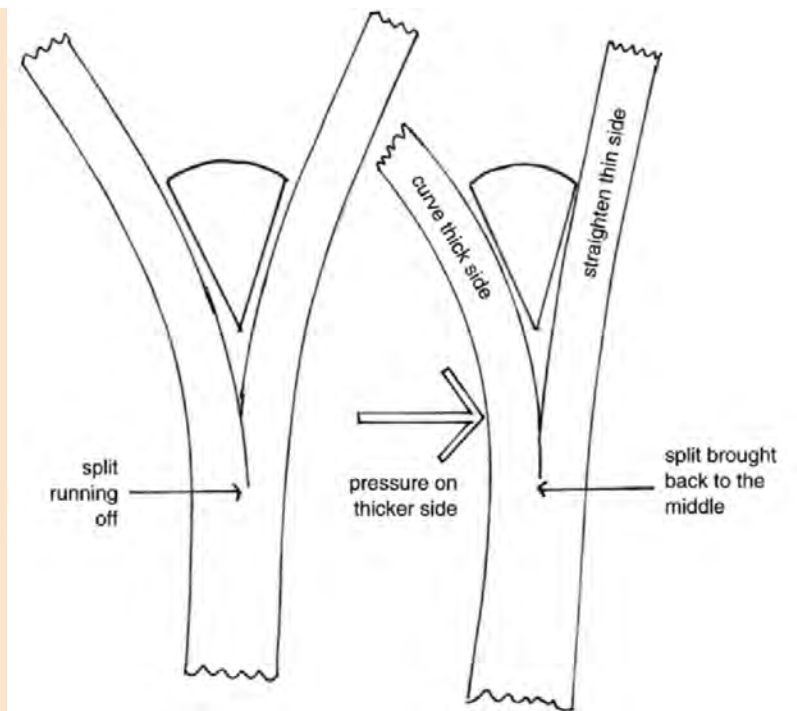


Fig. 6.22 Splitting hazel with a post to aid leverage.

When you reach the base point at either end it will be necessary to wind the weavers around at least every two to three rows. This is to ensure that the end (base) uprights are securely held in place. To wind the hazel you must twist it until the fibres separate and can move against each other, turning the solid brittle rod into a pliable bundle of fibres like rope which can be wound around the end and back into the weaving; do this with just one or both of the pairs of weavers but make sure the end profile remains level as this is the part of the arch that will rest on the ground. Continue with round rods and pairing weave until you have about at least 4in (10cm) of weave then you can swap to split rods.



Fig. 6.23 Prop the archway so that it can be set in the right shape.

Split rods can be woven in singly, so start at one end and just go in and out until the rod is finished. Start a new rod at the place where the last rod stopped so that they just overlap on that one upright, and on the inside of the arch if possible. Keep the rods all facing one way, perhaps with the bark on the outside; the other way around is fine though. This weaving grows quickly as the rods are wider and the weaving simple. Try to ensure that your joining places do not coincide with ones on previous rows or you can end up with weak spots, and pay attention to overlapping the cut ends neatly in front of the uprights. Ensure too that the weaving is growing evenly as you go. A measuring stick is good for this. Focus on keeping the uprights in line and not pulling in or flaring out – a good sharp perpendicular line is what you are looking for all round.

When the arch measures 18in (45cm) from the ground swap back to thin rods to finish with. You may find you are running out of good rods at this stage but you must finish off with a good few rows of pairing to hold the weaving tightly together.

You will have been keeping it trim as you went along but there will be more to do. The top ends of the uprights can be trimmed down so they only protrude by about 1in (25mm) at most. Then carefully lift the arch out of the ground using a pinch bar and a log as a fulcrum to prise the arch up. Trim up

the rods that have been in the ground to a maximum of one inch. When it is released from the ground the tensions within the wood will make the arch spring a bit out of shape so you will have to find a way to set it back. Lie it back down, this time with one side flat on the floor, and weight that down for a couple of days, supporting the top side on some boxes or props, before swapping it over and flattening the other side.



Fig. 6.24 Cleft oak fencing can look very smart in a garden situation (described in [Chapter 8](#)). (Photo: Victor Middleton)

Fix the arch into place by wiring it to four posts set in the ground to support the corners. It can be lifted a little off the ground to stop the wood at the bottom coming into contact with damp earth. Wire is recommended as nails may split the wood, letting in water and reducing the life of the arch. If you are combining the arch with a gate you will have to put the gate posts inside the arch, so make sure you have enough width to accommodate both gateposts and the gate within the internal dimensions of the arch.

GARDEN GATE

Roy Whiting works from The Greenwood Centre in Silverdale, Lancashire. He specializes in making hand-crafted gates that are built to last. With an engineer's mind he has perfected the art of gate making. His concern was that the tenons are always the weakest point on any structure so he now turns (on an oversize pole lathe he designed himself) tenons that are between 2–3in (5–8cm) in diameter.

The mortice holes for these joints are by necessity huge as well so he has developed a method of drilling them that utilizes an antique hand drill and a set of saw tooth bits. The tenons are sawn down two thirds of their length and two oak wedges tapped into place. Roy does not force them in in one go, but comes back and taps them in over seven to ten days. Then the joint is pegged

with a 0.5in (12mm) peg. The gate frame is now completely rigid and there is no need for a brace. When the five uprights are pegged in place there is even less chance of any movement. For these pegs Roy uses some oak heart doweling made with a rounding plane either $\frac{3}{4}$ in or $\frac{7}{8}$ in (20 or 24mm), and the pegs are drilled and driven in, with a drop of wood glue, angled down at the top and up at the bottom. The ends of the pegs are rounded off and remain a feature.



Fig. 6.25 A garden gate made by Roy Whiting.



Fig. 6.26 The tenons with two oak wedges.

WOOD STORES

If you burn wood for fuel then you will need a wood store. The size and shape will depend on how much space you have available. In an ideal world you would aim to store two years' supply, which could mean as much as 10 tonnes or up to 20m³ of wood at a time, depending on the size of your stove. Wood stores are available to buy ready-made, although these are often quite small. They can obviously be put together to make a bigger store; however this could become an expensive option. You do not normally need planning permission for a wood store and with a little careful thought you can easily construct yourself a wood store full of individuality and character.

Usually, a wood store is simply used for storing wood until it is needed to be put on the fire. However, an increasing number of people are buying wood that is not fully seasoned, as this is usually better value, and need to use their wood store for drying wood as well. For the purposes of this project, we are assuming that you are putting wood that still needs some drying into the store. It may seem obvious, but a south-facing store is better than a north-facing one simply because it receives more sunshine and is warmer, drying the wood better. However, the wind dries wood more than direct sunshine. So, the store should normally face the wind, and in most of the UK, this will be west or south west. Of course, this is also the direction from which most of the rain arrives, but there are design features you can include to reduce this problem.



Fig. 6.27 An antique hand drill – perfect for the large mortices needed on Roy's gates.

Once you have chosen the location of the store, you need to decide on a design. The main feature of a wood store is that it will keep most of the rain out while allowing a good airflow through the stored fuel. The roof, therefore, is usually solid, and can be of a traditional modern design, such as marine plywood with roofing felt, or you can use your new-found shingle-making techniques to make a more organic-looking roof (we'll look at this more in the next chapter). The sides should be slatted to allow the good flow-through of air.

Essentially, the store is made up of a frame, a roof and cladding. The frame should be designed according to the dimensions of the space you have chosen. The store can be as deep as you want it to be, but too many layers of logs may mean that those at the back don't dry as well.

If the store is to be in contact with the soil, a rot-resistant timber is essential for longevity – oak heartwood, chestnut or larch are ideal. Peeled poles last longer as the bark cannot then offer a refuge for beetles. The poles should be strong enough to support the roof, and remember that they will also support the wood stored within. The side slats can also consist of robust poles. It is sometimes helpful to add internal divisions to larger wood stores; this helps you organize and separate dry and green wood, and adds to the structural support. The side slats don't have to be special or resilient to rot – if they do rot, they are easy to replace when necessary. If using round poles, a better and stronger result is obtained if you shave the area of contact of both the vertical post and the horizontal slat to obtain a flat surface; drill holes for your connector (nail, screw or coach bolt) to avoid splitting.

Cleft slats can also be used; oak or chestnut should last for many years. If using cleft slats, mount them thin side facing upwards, so that these dry first and quickest, reducing the likelihood of early rot. If you include a base in your frame, it will enhance the strength of the store, while at the same time enabling you to add a floor. This might seem unnecessary, but a raised floor will improve drying by enabling airflow underneath the store. A removable, slatted floor such as some old pallets is ideal as then you can clean it out from time to

time. A couple of slats of a durable wood at the very bottom of the front of the store will reduce the chances of the lower few layers of logs getting wet from rain splashing back up.

Add some strong rafters for the roof (they can be a lighter specification than the side slats) and add your roof covering. Roofing felt or some strong plastic such as pond-liner underneath the shakes will help to ensure that all the rain is kept out, just in case they aren't quite as waterproof as you would like. If you live in a very windy, exposed spot, keep a tarpaulin rolled up on the front of the store ready to be deployed on the worst wind-driven rainy days. (See Oaks and Mills, 2010, for more on using wood as a fuel.)



Fig. 6.28 The woodstore of one of the authors – this one should ideally have more gaps in the end to allow more air circulation although it works very well.

CONCLUSION

Space is limited to describe the huge range of greenwood items you could make for your garden. Not only is there potential for a great deal of innovation in making garden structures and furniture, but there is also potential for finding a place once again for traditional rustic furniture to replace the modern, unsustainable trend for bland furniture made from tropical timbers.

Chapter 7

Building with Greenwood

There are many benefits to building with greenwood – aesthetics and economics are probably top of most people's list. Beauty is in the eye of the beholder, but if you have any tendency to favour the quirky or the rustic look then greenwood building is for you. The cost benefit is realised if you have ready access to raw timber straight from the woods, as much of the added value in commercial timber is in the seasoning, storage and transport.

We start this chapter with some very basic woodland shelters and look at how some of our colleagues solve the problem of keeping dry in the woods. Then we look at some fairly simple pole barn projects that require no more than basic skills to achieve. We will take a close look at a timber-framed composting toilet, the sort of structure that all wood yards should be proud to possess. Finally we look at some of the building techniques that employ green wood components such as thatching spars and cleft wood shakes for roofing.

PLANNING PERMISSION

It would be irresponsible to set you off dreaming of building your own castle without first addressing the thorny question of planning permission. The first thing is that if you're in doubt, get advice from your local planning department. We have had a fair bit to do with the planners over the years and they have never been anything but helpful and encouraging. However, faced with a blatant contravention that has been brought to their attention, usually by a disgruntled neighbour, they do have to act and in the end your pride and joy may well get torn down if you don't have permission for it.



Fig. 7.1 The simplest form of shelter a rope, two trees and a tarp.



Fig. 7.2a Dave Jackson's shelter with a seven-sided design (Abbott, 2002). He has used sawn timbers for the roof but the main upright posts are of roundwood.



Fig. 7.2b It requires a crown piece to be made by a blacksmith, so that the seven roof timbers can be bolted securely into place. The tarp is square but has a slit to the centre so that the cut edges overlap.

Erection of sheds and workshops in a field or wood falls within permitted development, as long as they are ‘reasonably necessary’ – for example, if they are used as a bad-weather shelter, store or office. This phrase is rather vague and in order to determine whether a shed is reasonably necessary, you must give twenty-eight days notice to your local planning authority of what you intend to do. They can then make a decision on whether what you have told them falls within permitted development, or whether you require planning permission. On an agricultural holding of more than 5 hectares permission should not be needed; however if your shed looks like it might be lived in your proposal is unlikely to be seen as permitted development.

PLANNING PERMISSION

In your garden you may erect a shed without planning permission if:

- It is not for business use.
- It is not ‘outwith your curtilage’, that is, the grounds associated with the house.
- The house is not listed or in a conservation area.
- The proposed building is not more than 4m high in total and 3m at the eaves or 2.5m in total if within 1m of the boundary.

- It is not in front of the house or the side if it is next to a road.
- It does not take up more than 50 per cent of the available space.



Fig. 7.3 Matt Turley's workshop in south Cumbria, greenwood poles and canvas. (Photo: Matt Turley)

Your best insurance for a trouble-free life is to talk to with your neighbours and make sure that everyone is happy with what you are proposing. Most people are averse to change and feel threatened when anything that looks like development occurs in their area. It is up to you to reassure them that your plans will be a positive addition to the neighbourhood and not a negative one.

WOODLAND SHELTERS

Roundwood construction

Sometimes you get asked to do a job that is outside your usual remit; this can lead to all sorts of new opportunities. The National Trust wanted us to thin an area of woodland that had been planted in the 1960s with hybrid larch, in among ash and beech in a local woodland. They wanted the non-native trees removed to leave just ash and a bit of oak and elm. As we were not selling softwood for firewood and there was not enough larch to sell on for fence posts, it was decided that the best use for the timber would be to make a series of green wood structures. The in-house building projects detailed here all use

this timber.



Fig. 7.4 From this stack of larch came many creative projects, as the need arose.

A simple sheep shelter

It is possible to construct a simple barn structure, using only basic joints, with a modest amount of skill with a chainsaw. Your first step should be to draw a plan of the intended structure. This does not have to be fancy, but if you can be accurate and draw it to scale with a scale ruler, then this will be a help. For simple projects, a sketch on the back of an envelope will suffice.

The plan shows six sturdy posts that are dug into the ground to make the main frame of the building. Three lighter poles are fixed with nails to the top of these posts and slope back and down to allow rain to drain off freely. Three sawn timber joists are then nailed across the three roof timbers to take the tin roof. These could have been round wood but it would have made it a touch more rustic unless they all had a flat surface and the thicknesses were fairly even.

Materials

Timber could be any available, although oak and chestnut are the most durable of the broad -leaved trees for timber exposed to the weather. Larch is an option and one I tend to favour as it has good natural preservative qualities. Remove

the bark with a spade or a drawknife and trim flush any side branches.

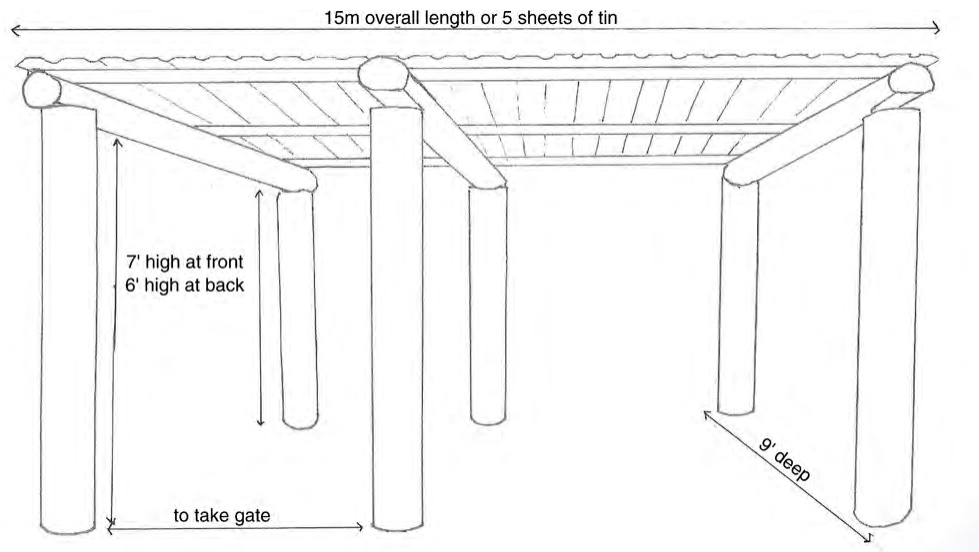


Fig. 7.5 Sheep shelter plan.



Fig. 7.6 Removing the bark with a bark stripping spade.

Preparation

Mark the position of your shelter out on the ground. Take into consideration variables such as prevailing wind direction and aspect in relation to the sun from the point of view of cold in the winter or heat in the summer. Visibility of the shelter is important as you may want it to blend in with the surroundings. Also the slope of the ground may be a factor.

It is important to get the framework of your shelter square. This is possibly

a bit boring but the tin will not fit onto a frame that is rhomboid shaped. Mark your first post then measure the position of the second post, and with a peg and string mark the straight line between the two posts. Then using something square, such as a pallet or a door, try pegging a line at a right angle to the first line. Check your angle by using the trusted 3, 4, 5 formula (see [Chapter 6](#)). Now you can measure out the remaining posts and check the angles (90°) of each of the corners.

YOU WILL NEED:

Six poles for uprights, 6–10in (15–25cm) diameter and at least 9ft (2.5m) long.

Three poles for roof supports 5–7 inches (12–18cm) diameter and nine feet (2.5m) long.

Three sawn timber joists (to fix the tin sheet to) at 16ft long (5m).

Five sheets of box profile plastic coated metal roofing material.

100 roofing fixings.

A bag each (20 or so) of 4in, 5in and 6in (10–15cm) nails.

Tools

A chainsaw plus protective trousers, boots, gloves and helmet.

A ladder (a four-way folding ladder that has steps and/or a platform is ideal); also a second pair of steps for your assistant.

A hammer and a pair of pliers.

Spirit level, string.

Tape measure, pencil.

Foundations

You have two options: either to dig a hole and set the posts firmly in the ground or to create a pad foundation in concrete into which you can set a steel rod and onto which the post is then lifted (having first drilled a hole in the base of the post). This has the advantage of keeping the wooden post free of the wet ground and makes it, in theory, a structure that could be lifted off the ground and moved around.

Post hole

Ideally your hole should be at least 2ft (60cm) deep. The hole should not be too wide – just a maximum of 8in (20cm) more than the diameter of the post. You may start it with a spade but if it is at all rocky you will need a pinch bar to loosen the stones and as the hole gets deeper a trowel can be handy to remove the loosened earth.

Insert the post into the hole and ensure it is standing upright; this can be done with a spirit level but it is not easy with a tapered log to be accurate. A plumb line can be useful here, where you suspend a weight on the end of a string. Once the line has stopped swinging around it will show you a dead-vertical line. Standing well back and judging it by eye can be quite accurate. Fixing it in this position with diagonal props is recommended at this point.



Fig. 7.7a The posts are pulled into position using time-honoured methods of rollers and ropes.



Fig. 7.7b They are heavy but with care two people can lift them without doing themselves any harm.

Back fill the hole very gradually using perfect-sized stones that can be wedged in around the post. On the limestone it is important to find what are called ‘blue stones’ which are made of a harder rock that will not shatter and crumble like limestone when they are hit with the tamper.



Fig. 7.7c Do make sure the hole is the right depth because once in the post is not coming out again.



Fig. 7.8 Back filling the hole with tightly wedged rocks.



Fig. 7.9 Cutting the top of the post off at the correct angle.

If there is no suitable material to make the post steady then you can resort to using a product such as postmix – available from all builders merchants. This is a ready mix of sand, cement and gravel. Follow the instructions regarding the correct amount of water to add. This will set fairly quickly so make sure you are ready and the post is supported in exactly the right position before you start.

Fitting the roof supports

When you have your six posts secured in the ground you will need to set the angle of the roof.

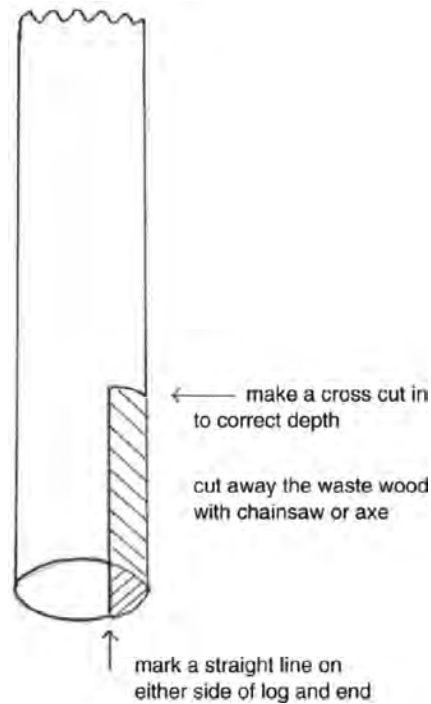


Fig. 7.10 Mark out the joint.

To do this, nail a piece of sawn timber from front to back at the angle required. Then using the timber as a guide, cut the tops of the posts off with a chainsaw. Do use all the correct personal protective clothing and take extreme care when working on a ladder or better still, use a scaffold.

To make the other two sets of posts match you will have to use a string line across from the original post to the other two, and use a plank and a spirit level to make sure that the roof is horizontal along the front and back view. Then using the sawn timber as before cut those posts down to size.

Now you will need to make some simple chainsaw joints to allow the three main roof supports to sit on top of posts.

Offer up the roof support and mark where the inside of the post comes to at the front and the back; then mark a line back to the end of the post. Make a shallow cross cut in with the saw and then cut the waste away from the end of the post back to the cut line. This will create a flat edge to sit on top of the post. Decide on an average height above the top of the post that will be the finished height to which the tin is fixed and try to achieve this evenly across the whole roof. For example a roof support that is 6in (15cm) diameter will have 2in (5cm) removed to leave a finished height of 4in (10cm), whereas a roof support of 7in (18cm) will need 3in (8cm) removed to leave the same 4in

(10cm) overall addition to the height. If the supports are already less than 4in (10cm) then you may need to lift them with a piece of wood as packing. You can see by the measurements that this sort of construction is not intended to be millimetre-perfect. Lift the roof supports into place and ensuring you have the desired amount of overhang at front and back, nail them in place with a couple of six inch (15cm) nails.



Fig. 7.11 Cut away the waste wood either with axe or chainsaw.



Fig. 7.12 A heavy hammer can be useful to drive the nails home.

Fitting the roof joists

The roof joists now need positioning – this is not too crucial but make sure the one at the back is in the right position for fixing the guttering to. The eagle-eyed will see in [Fig. 7.13](#) that the timber is not long enough to go the full length so they are pieced together. As long as they are all the same thickness this does not really matter. If you want to use round wood, then you will have to take extra care to nail through the tin and into the wood, not to miss and leave holes in the roof.



Fig. 7.13 The roof joists in place and the tin fixed to them.

The roofing sheets

Fixing the sheeting is fairly straightforward. Start at one end and just take time to be sure that you have the first one square with the edge as it is quite hard to make adjustments once that first one is fixed in place. The special fixings are designed to be hit with a hammer so that they will pierce the tin without drilling, then they can be turned with a socket to make sure that they form a tight seal with the rubber washer and the tin. A simple tip is to hold them with a pair of pliers before whacking them with a hammer because you are sure to miss and hit your hand at some point when driving home 100 of them.



Fig. 7.14 The sheep showing their approval.

As a final touch, trim up the roof supports so they are neat and fix the guttering to the back so that it can drain into a water butt. This particular sheep shelter used three extra pieces of tin to make a cosy sheltered wall around two sides.



Fig. 7.15a This sheep shelter used the same techniques but was built into a rock outcrop.



Fig. 7.15b No need to fix the guttering in this situation.

Pole barn workshop

The same techniques on a slightly bigger scale were utilized in making this 10

× 10m workshop space. Note the multicoloured tin, which was one way of getting a cheap roof (approx £5 per square metre).

Before the concrete sets, a piece of reinforcing bar is cut to length and inserted into the concrete so that it protrudes about 9in (20cm) above the final level. The post is drilled to a depth of 9in (20cm) so that it can be located onto the pin and cannot move sideways.

Putting a post of this size into place is a logistical nightmare. Luckily in this example we had the services of a very skilled Hiab driver, Sam Hanafin, and he made short work of placing the posts and the joists inch perfect into place.

As usual all the joints are prepared on the ground before putting together. The main joints on top of the posts are drilled, and threaded bar used with a large nut tightened down to secure all the components. A roof like this with no sides is very vulnerable to high winds so it is not worth taking any chances.



Fig. 7.16 Pole barn workshop.



Fig. 7.17 This construction uses concrete pad foundations, a square hole is excavated and wooden shuttering used to contain the concrete.

The framework was struttled to hold the structure square, first with temporary struts and then with permanent ones.

The roof joists were sawn softwood; attached using blocks of the same timber cut into triangles and nailed down to the roof beam. They were positioned on edge as this will be more weight bearing.

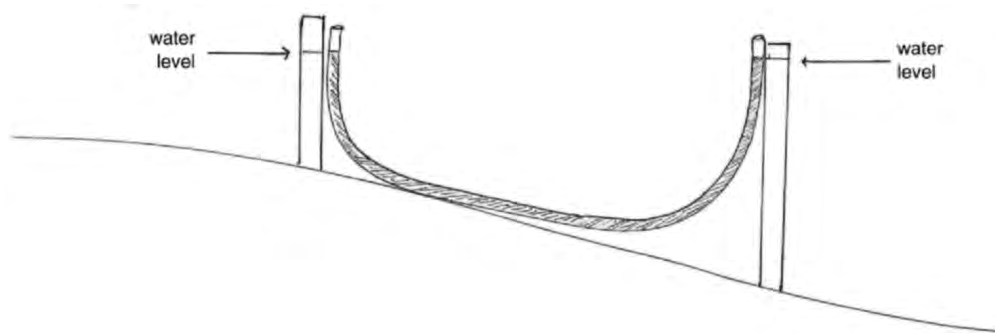


Fig. 7.18 Finding a common level for the concrete pads is an issue here and can be solved using a hose pipe. Water in a pipe will always find a level so you can mark the points where the end of a full pipe of water is neither too low and spilling water or too high and the level disappears down the pipe.



Fig. 7.19 Sam Hanafin using his timber grab to lift the joists into place.



Fig. 7.20 The main joints are deceptively tricky to get to a perfect fit.



Fig. 7.21 The structure is held temporarily with struts.

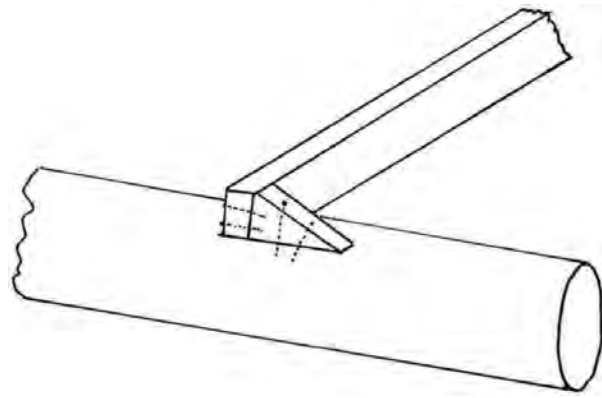


Fig. 7.22 Detail of the joist attachment.



Fig. 7.23 The tin sheets fixed in place – workshops can begin.



Fig. 7.24 The basic frame work of the octagonal bothy in place.



Fig. 7.25 The staircase was made of cleft ash and elm planks all sourced on site.

An octagonal bothy

An octagonal bothy built on concrete pad foundations from larch felled from the woods behind, with reclaimed timber for a mezzanine floor. This building was the inspiration for many of the projects featured in this chapter, having been conceived, site managed and completed by the mother of one of the authors in 1996. It has the concrete pads and metal bar to set the posts on, and the basic joints are very similar to the ones described in the previous buildings; it is octagonal which creates all sorts of issues with angles, each corner being 135 degrees.

The crown of the roof is finished with glass, which makes it lovely and light inside. The problem of how to reach the mezzanine floor was solved with an ash and elm staircase, made from trees grown on site. A rope balustrade was added at a later date as a small concession to health and safety.

Roundwood bothy with a reciprocal roof frame

The construction of this bothy is similar to the previous one in that it was made entirely of reclaimed materials and cost less than £1,000 to build. It has twelve

uprights, set on concrete slabs, which were drilled to take a 0.4in (12mm) reinforcing bar which, cut to 16in (40cms) long, pinned the uprights to the slab. The reciprocal roof is a self-supporting structure and very strong. It was designed to take a turf roof, which is very heavy, especially when wet or snow covered.



Fig. 7.26 The finished bothy, with the designer and builder taking a well earned break.



Fig. 7.27 A twelve pole construction with a reciprocal roof frame. (Photo: Phil Daube)

The rafters are bolted together and also bolted down to the roof plate. The hard part is getting the centre round and in the middle.



Fig. 7.28 Detail of the roof construction. (Photo: Phil Daube)



Fig. 7.29a A different project, but very similar design, is this one by Helen and Tim Elvin.



Fig. 7.29b Note the use of unpeeled hazel poles to support the membrane.

TIMBER FRAMING

A composting toilet

The building that was most needed at the wood yard was a composting toilet. Planning consent had been granted and it just needed a team of willing helpers to get the project underway. Experienced timber framer Malcolm Lemmon was brought in to supervise the construction of the timber frame and to teach a gathering of BHMAT apprentices the skills of his trade.

The timber was first converted to 6in (15cm) square beams with a chainsaw

mill and some of it was planked into 1in (25mm) planks. You can hire or buy a chainsaw mill and learn to use it – then the cost is just in your time. More realistic is to hire a planking saw with someone to operate it and this is usually possible at a reasonable a day rate.



Fig. 7.30 The larch converted to beams with a chainsaw mill.

The first step was to construct the base frame, which was to be 9 × 6ft (3m × 2m) and with a beam across the middle; the shorter cross beams were jointed into the back and front beam with mortice and tenon joints. An electric chain morticer was used to cut the square mortice holes.



Fig. 7.31 Malcolm Lemmon teaches apprentices Sam Ansell and Rupert Hoskinson the finer arts of timber framing.



Fig. 7.32 Using an electric chain morticer.



Fig. 7.33 Shaping the tenons with a chisel. (Photo: Wood Education Programme Trust)

The tenons were cut with a saw and then the waste taken out with a chisel.

When a tight fit was obtained and all the joints complete the frame could be pulled together with a ratchet strap ([Fig. 7.31](#)).

The mortice and tenon joints were held together with oak pegs that were cleft and whittled by drawknife and carving knife. The holes for these were drilled right through the beam, using an electric drill and an auger bit. While

each frame was tested for fit, temporary steel drift pins were used instead of the oak pegs.

Once the base frame was complete the upright wall posts were fitted. These too were jointed into the base frame and all the joints prepared for the roof as well.

The structure was strengthened with struts, which were cut from an interesting piece of larch to act as a feature and to make the jointing more challenging.



Fig. 7.34 Whittling oak pegs.



Fig. 7.35 Trying the frame wall posts.

The frame was constructed completely in the workshop and all the joints prepared. This is important as all the different joining components can be offered up and checked that they fit snugly as work progresses. Meanwhile the base of the composting toilet was prepared. The design was for two chambers and it is important that they are open to the soil below to encourage worms and micro-organisms to break the waste down. So the first step was to dig three parallel trenches to take a concrete foundation. As the site being used had little top soil and was soon down to bedrock these did not have to be too deep. Fifty centimetres would be adequate in any case.



Fig. 7.36 Cutting the curved braces with a chainsaw.



Fig. 7.37 Trying the curved brace for fit.



Fig. 7.38 The framework in place.

Once the foundations were set, three courses of concrete breeze blocks were used to bring the height up to 3ft 3in (1m), checking that they remained level and in line as they were laid. Then a base of chicken wire was cemented into place and fixed at the front by a cement sill. This was to make the composting chamber relatively rat-proof while allowing free drainage into the soil below (and for worms to work their way up).

The base frame of the structure could now be laid on top of the chambers.

A coat of bitumastic paint was applied to the underside of the timbers to resist water penetration. When the base frame was in place the rest of the timbers could be slotted into place and the oak pegs hammered in to hold all the mortice and tenon joints tight, as the complete assembled frame slowly dried.

A box profile metal roof was hammered into place to keep the worst of the rain off while the frame settled into place. A chipboard floor was laid first and a secondhand window frame was fitted at the front. Larch boards were milled with the chainsaw mill to clad the outside and they were cut to fit at the ends with a jigsaw. A door was constructed from larch boards planed and then nailed to a simple Z-frame; some cunning shaping was required to fit it into the irregular shaped doorway. Steps were constructed from concrete blocks to lead up to the door.

The interior consists of a simple bench construction using some milled beech planks. A hole was cut in the bench and the floor below to take a black plastic waste bin that had its bottom removed. This acts as a chute. On top of that two standard toilet seats were fitted and bolted down to the bench. A urinal was made with a hole cut in the bench to take a large funnel, which was plumbed into a simple waste system using a push-fit 1.5in (40mm) waste pipe which had a gradual fall before leaving the building through a small hole cut in the side wall. This waste was connected up to a waste pipe that drains the urine and waste water from the sink to a soakaway. The soakaway was excavated with a mini digger and filled with charcoal fines, then the earth was replaced.



Fig. 7.39 The interior of the composting loo.

Doors were made to fit at the front of the chambers, using waste wood from the planking; this is so that the compost can be removed once it has thoroughly decomposed. As the toilet has fairly light use it is anticipated that each chamber will be used for two years and then left for two years before emptying. The toilet is now in use and is odour free and very user friendly; it would perhaps benefit from some curtains and cushion flooring but these have yet to materialize.



Fig. 7.40 The finished toilet.

SHAKES

In contrast to much of Europe, Britain has less of a tradition of cladding roofs with shakes or shingles. Perhaps the only exception is in the south-eastern counties of England, where there are still some roofs covered in shakes, and a lot more timber cladding. However, there is a slowly expanding market for shakes to roof garden buildings – summerhouses and workshops – and this is a great project for roofing a composting toilet or a wood store.

The difference between shakes and shingles is that shakes are cleft and shingles are sawn. Therefore as a greenwood project we will look at shakes; as with other cleft products, it is the cleaving that retains the integrity of the wood fibres which means that the product is robust and durable.

In Europe, shakes are made from softwood species, such as Norway spruce and in the USA, they are made from western red or yellow cedar. Shakes could be made from any timber that is easily cleft, and for garden structures, where durability is less of an issue than for a dwelling, shakes made from pine, larch, ash or elm would be fine. The most durable shakes will be of oak heartwood or chestnut.

Properly affixed shakes allow free air movement, which stops the build-up of damp and the subsequent moss growth, rot, and decay. Generally speaking, the steeper the pitch of the roof, the quicker the water is shed and more rapid drying out occurs, which also reduces the amount of fungal attack; shallower pitched roofs will decay faster.

Timber for making shakes must be green. Oak up to a year old can be cleft as long as it has been left in the round and not logged into rings. Before you begin cleaving, you should cut your logs to the required length – shakes are generally between 13–16in (31–38cm) long. This is known as a bolt. Make sure that your cut is straight and perpendicular to the side of the bolt. If you don't do this, your shingles won't have straight ends and will all need tedious trimming. The wood you choose to cleave should be straight and as knot-free as you can find; if there is a knot on one side of the log, you'll be able to cleft on the opposite side, but the piece with the knot will be firewood. The area at the base of the trunk, which has the buttresses of the tree, can be cleft but cleaving is generally somewhat more difficult as the fibres here are tough and stringy. The log should be a minimum diameter of 10in (24cm) but 12in (30cm) is better.



Fig. 7.41 Softwood shingle-making in eastern Slovakia.



Fig. 7.42a Starting the cleft for an oak shake.

There are several ways to make shakes. Perhaps the easiest way is the off-the-back or bastard shake method. This is where the cleaving simply works in from one side of the bolt and keeps going. A more time-consuming method is to work on the log from two or more sides; these shakes tend to be somewhat smaller but less likely to cup after drying. It is best to put the log on a hard surface for your cleaving, and use a heavy wooden mallet and a substantial froe. Remove most of the sapwood first – if you do this, the amount of trimming-up work needed later will be reduced and large chunks of sapwood make good firewood. This method produces English-style shakes, which are parallel-sided and about 0.5in thick (12mm).

The other common method is to turn the log over after each cleft to produce a shake that is tapered from 1in (25mm) at the thick end to less than 0.5in (12mm) at the thin end; these tapered-style shakes tend to make a more rustic-looking roof.



Fig. 7.42b Cleaving the shake.



Fig. 7.43 Finished oak shake (this is a narrow one).

Once made, the shakes need just a little cleaning up to remove splinters. The underside sometimes needs a little more shaping just so that the fit is a bit better onto the lath or shake underneath.

Shakes tend to be between 3–8in (7–20cm) across; there are about eighty per square metre of roof, with a two-thirds overlap. For a steep roof, you should be able to have only a half overlap (60 per m²), but most roofs will require only a third of each shake being exposed, meaning that the whole roof will be at least two shakes thick ([Fig. 7.47](#)). The fixings have to be resistant to both rust and the tannin in the oak; often stainless steel nails are used but sheradized or galvanized are also good; copper nails are sometimes used but

these are more expensive. Oak shakes are normally tough enough not to require a drilled hole for the nail, but you can do this if you are concerned about splitting the shakes when fixing them to the roof.

WOODSTORE ROOF

For a small woodstore with a single slope 6m² roof, you will need:

480 shakes, 15in (38cm) long.

Breathable but waterproof membrane.

Batons to run crossways usually 2 × 1in (50mm × 25mm) sawn softwood.

Nails to fix batons and nails to fix shakes 2in and 1.25in (50 and 35mm) – all galvanized or sheradized.

Fix the batons over the membrane at 6.5in or (165mm) centres, starting with two together at the bottom to set the shakes off at the right angle.

If you want to cover a hip roof, there will be ridges where the shakes join; you will need a series of extra-large shakes to run up this ridge, shaping them to the right angle as you go (and unfortunately, creating a lot of waste along the way that you can do little about). A skilled shake-maker working with good quality cleaving oak can make over 200 shakes per day; the cost is around £80-£100 per m² of roof.

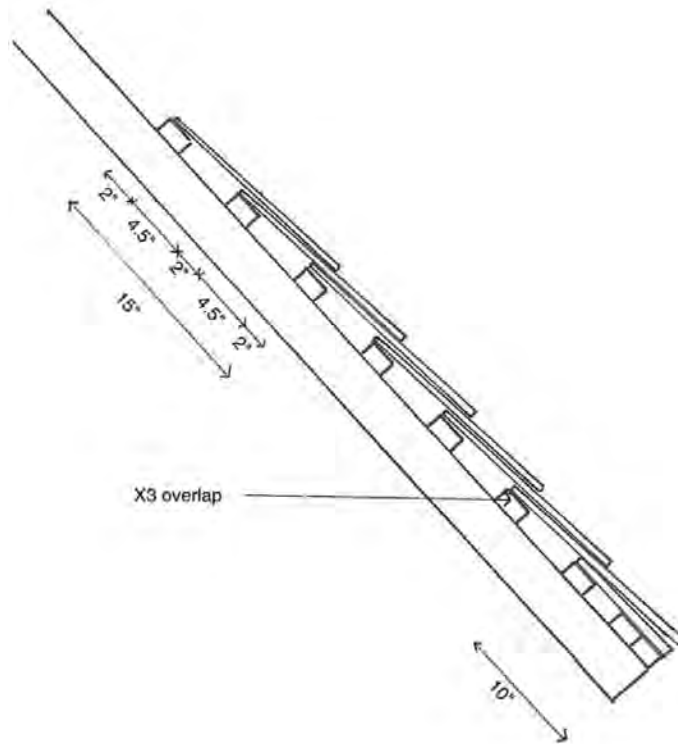


Fig. 7.44 Detail of the shake attachment.

FIXING SHAKES

Your first row will be a two-thirds length row to lift the shake to the right angle. If you anticipate there being woodpeckers in the area then it is wise to leave a 0.07in (2mm) gap between the shakes as this will allow the birds to access insects without damaging the shakes. Each shake will have to be chosen carefully to fit next to its neighbour and a bit of judicial trimming with a side axe may be necessary to get a perfect fit.

As you build up the layers, make sure that the gaps are covered each time; this is especially important if you are just having a half lap and not a third. Drill the shake and nail in place with two nails. When you have reached the top of the roof it will be necessary to cover the last row of nails with a baton of cleft oak to run the full length of the roof.



Fig. 7.45 Trimming the shakes before fitting.

THATCHING SPARS

Before slate was used to cover roofs, thatched roofs were ubiquitous in straw, reeds or rushes. In many parts of the country, thatching has died out, although there are some well-known strongholds, such as Devon, Dorset and parts of East Anglia. Slate was cheap, readily available and lasted much longer than thatch, needing far less maintenance, so it is not surprising that it replaced thatch in most areas. As well as being inextricably linked to the local supply of the raw material that makes up the thatch, the craft is also strongly linked to the supply of the material to fix it to the roof, and this material is hazel. Whole books have been written about thatching, but here we are concerned with the aspects of the craft that involve the use of wood.

There are four basic items made from hazel that are used in thatching. The **sway** holds the underthatch to the rafters; the **liggers** are long rods that hold thatch close to the ridge of the roof; the **cross rods** link the liggers together and the **spars** are the hairpin-shaped items that are used to pin the thatch in place.

All the hazel should be as straight as possible. Slight bends are manageable but anything with a kink or which is twisted by honeysuckle growth or damaged by deer should be rejected. The hazel should be trimmed of its side branches and tiny twigs, but as little of the bark removed as is possible. Some thatchers prepare their own materials on wet, windy days when climbing onto

a roof isn't a good idea. Others take materials prepared – obviously, this preparation will have added some value and can be sold to the thatcher for a little more. Materials are normally tied in bundles of twenty or twenty-five.

The best spar wood is between 1–2in (25–50mm) diameter; the hazel rods are sawn to length – use a template so the size is consistent – these are known as gads. The gads will be the length that the thatcher requires, according to the job in hand, so rather than prepare several thousand that could be too short, it is best to find your market first. Each gad should be a little longer than the thatcher needs to ensure there is enough length to make a point at each end.

Riving the gads into spars can be done in a number of ways. As with most riving, practice makes perfect, and to produce a spar commercially, you need to produce a quality product very quickly and efficiently. Once you have your hook, lat axe, riving adze or other favourite riving tool in the gad, and the split is opening, you can use a riving post, or use the hook facing towards you with the gad under your arm. The gad is normally too short to rive standing up without a riving post. It can help to ensure the base of the gad is steady by using a simple frame ([Fig. 7.46 a, b and c](#)).

Most people rive hazel using a small billhook alone; once the split has been started, use the hook as a lever to prise apart the gad; it is best to twist the hook rather than to try to force it through the hazel.

The number of spars you'll be able to get from each gad will depend on the diameter of the gad and your skill. The quality of the hazel is also important – the straighter and cleaner the raw material, the easier it will be to rive. Often, the hazel will rive more cleanly if it has been stored for two or three months.

A gad 1in in diameter will normally be quartered to create four spars with a cleft face between a 0.5in and 0.75in across. A gad 2in across might give sixteen spars; it is possible to use bigger hazel and to get even more out of one thick gad. Each spar should be cleaned of rough splinters with the hook and given a clean point at each end; the point should only take three cuts to make. A well-practised spar maker can produce well over 1,000 spars every day.

Spars can be bundled into hundreds or two hundreds and tied tightly. The spars will shrink as they dry, and an old woodsman's trick is to make up

bundles that are a few short, and then as they are being prepared for delivery, add the number required to make the full amount, thus ensuring tight bundles.



Fig. 7.46 a, b and c Three different methods of riving to make thatching

spars.

Liggers should be made from hazel that is as knot-free and straight as possible. The hazel is normally cleft into four, and the inside then made into a flat face by trimming with the hook, taking into account any twist, so it will lie flat on the thatch; a 4in taper should be made at each end. As the liggers are longer and heavier than spars, they are tied into bundles of twenty-five. The sways are made in the same way as the liggers but without so much shaping or attention to detail as they are used under the thatch.

In conclusion, many people who try self-build projects are amazed at what they can achieve with little training. Even if you just make a start with a log store, you may well get inspired and before you know it you will be designing sheds, shelters, and even houses.

One thing that is necessary for a building project is a group of willing helpers to make your plans come to fruition. For many people a great starting point is to volunteer on a building project. These are often run as courses, so you may have to pay, but you will come away with valuable skills and a sense of what is possible.



Fig. 7.47 The riven spars.

CONCLUSION

Building in greenwood can be rather a specialist area of work, but with sustainability on everyone's lips, society will continue to require people with these valuable skills. We hope the projects we've included will raise awareness of the simple techniques involved and encourage you to take inspiration from some of the designs we've featured and experiment yourself with building in greenwood.

Chapter 8

Agricultural Items

Only in compiling a chapter on the present and past uses for greenwood products in an agricultural setting, does one realise what a rich cultural history has so very nearly been lost. Scythe snaithes, sheep cribs, coopered tubs and buckets and hop poles, once everyday items that, if not made on the farm, would have been available locally. Researching the history of coppicing in the north west of England we were curious to find out whether hazel hurdles had ever been made in any quantity in the region. One farmer at retirement age himself said, ‘Oh Dad used to make hurdles for the farm out of hazel or ash – [in] wartime you had to make everything yourself from the farm.’ It is his dad’s method for making a hay crib for calf feeding that we explain in this chapter.



Fig. 8.1 Oak and hazel powder keg by Colin Simpson.

We start though, with gate hurdles because before metal hurdles and electric fencing, all stock were penned and managed with a set of regularly replaced hurdles and these do still have their place. Farm fencing and hedging are now often softwood but cleft oak or chestnut fencing still has a place and is particularly fitting where a regional style is appropriate. Finally we look at

some of the smaller greenwood items that are invaluable on a farm or smallholding.

GATE HURDLES

Many woods can be used for hurdles. Ash has always been favoured for gate hurdles as it is a light, strong and flexible timber that cleaves easily. Chestnut will last well out of doors as will oak heartwood, but there is considerably more work in removing the soft sapwood from the latter. The ash wood shown in [Fig. 8.2](#) is fast grown and less than ten years old so will be used mainly cleft into two halves. Larger diameter wood could be used and then it will be cleft into quarters, eighths or even further. It is usual though, to use a 4–5in (10–12 cm) diameter pole, cleft in two for the end posts.



Fig. 8.2 Ten-year-old ash poles.

TOOLS

Cleaving break.
Froe and mallet.
Drawknife and shavehorse.
Drill with 0.7in (18mm) bit.
Chisel.
Hammer and nails.
Tape measure and pencil.

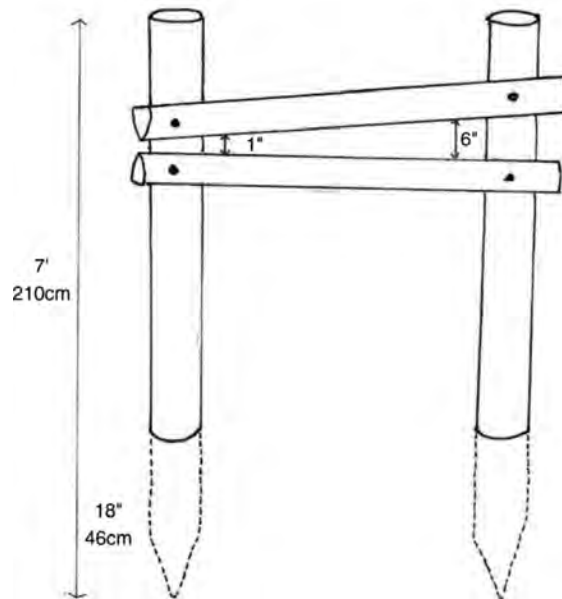


Fig. 8.3 A basic cleaving break.

To make a 6ft (180cm) hurdle, 4ft (120cm) tall you will need five rails 6ft long (three split into half provides the rails) and two 4ft 6in (130cm) long poles for the end posts (one split in half). You will also need three cleft pieces for braces (you can sometimes utilize a rail that has not split as intended and is too thin).

Cleaving the ash is fairly easy with a cleaving break and froe. The break here is a simple frame of two uprights and two cross pieces, one set at a slightly different angle.

Start by making the rails; place the froe across the end grain of the first pole to cleave it, making sure you are going through the central pith and that there are equal amounts of wood on either side. Tap the back of the froe with a mallet to start the split. Work the froe down through the rail by levering the handle to open up the split. The rail should be held firmly in the break and downward pressure put on the rail with the thicker half beneath to bring the split back to the centre of the pole. Place a wedge between the two split halves to hold the split open and allow the froe to move down. Keep turning the wood over as you go so the thicker side is always underneath. You will find that the split zigzags down through the wood but practice and patience will soon produce two clefts of even thickness.

Cleave all the rails and the end posts and don't forget to do some extras for

braces. Now all your components need the bark removing, shaping and any thicker or uneven sections removed. This can be done on a shave horse with a drawknife but can be a bit awkward with the long rail under your armpit. Better still is to modify your cleaving break so that there is a post of just the right height in front of it so when the rail is trapped in the break it can be rested on top of the post with enough tension in the wood to hold it firmly in place.

Prepare all the components in this way and collect up all the lovely ash shavings to fire your kettle or use as kindling.

The next step is to mark out the end rails to take the mortice joints – they would normally be evenly spaced. Mark the bottom rail 9in (22cm) from the end and the top rail 4in (10cm) from the other end, then divide the space in between into four, marking with your pencil. Lay out the prepared rails now and choose which ones are going where. This will be a mixture of aesthetics and practicality; if your hurdle is to contain sheep then lovely artistic curves may leave a gap big enough for a small sheep to escape. However hurdles can be very attractive when any irregularities are matched and placed with care. Consider having your sturdiest rails at the bottom and the top for strength. When you are happy with the results mark all the rails carefully so you know which way round each one goes and with which mortice joint. (You would normally have all the cleft sides facing one way) and adjust the position of the mortice joints to take into consideration any variations.



Fig. 8.4 Using the cleaving break and froe to produce two evenly cleft rails.

The next task is to make the mortice and tenon joints. This is not as complicated as it sounds. It will involve drilling two holes side by side with your 18mm drill bit and then removing the remaining wood with a chisel. There is a special tool for this job called a twybil but unless you have one in your tool kit don't buy one specially. Using a twybil is a quick way of using leverage to remove the waste wood between the two holes but a chisel does the job just as well.



Fig. 8.5 (Left) Using a break to hold the rail while shaving it smooth with the drawknife.

Before you start to drill the mortice joints on your end posts, make yourself a mortice template by drilling two 0.5in (18mm) holes side by side in a waste piece of wood and removing the wood in between, just like a real mortice joint – this can then be used for matching up the tenons on the end of the rails with the mortice joints. The tenons are shaped with a drawknife, holding the rails in the shave-horse and turning the rail regularly, and offering up the template to make sure you get a snug fit where the rail will slot into the mortice all the way through. Mark the shape of the tenon on the end of the rail to help you visualize how much wood to remove.

When you have prepared all the rail tenon ends, lay the hurdle out again on the ground and check the position of the mortice joints. Note if the tenons are at an odd angle and mark this on your end posts so that the mortices can be drilled through to match.



Fig. 8.6 Marking the positions of the end rails.



Fig. 8.7 Detail of the mortice and tenon joint.



Fig. 8.8 Remove the waste wood from the mortice joints with a chisel and mallet.

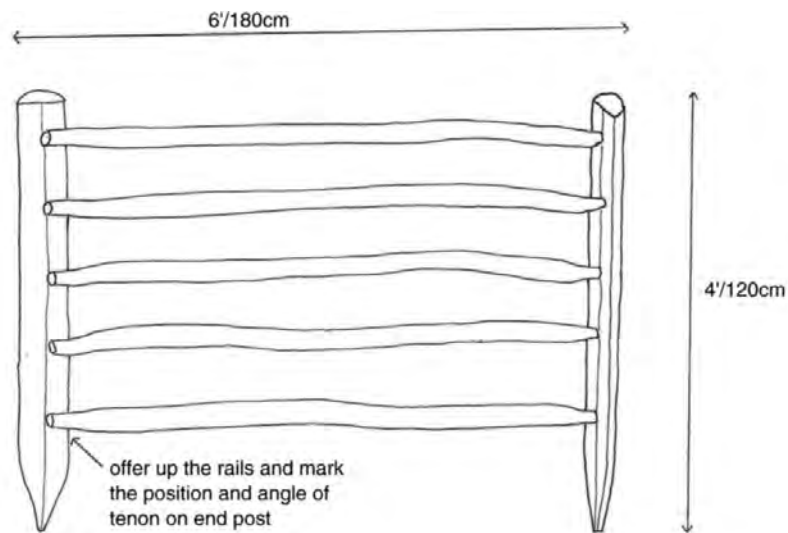


Fig. 8.9 Marking out the position of the rails.



Fig. 8.10 Peeled and cleft chestnut gate. Maker: Les Brannon.

Now complete all your mortice joints and prepare for a bit of a battle to get all the rails in place. Insert all the rails into one end post and tap them in tightly with a wooden mallet. Then starting at the top or the bottom feed the rails one by one into the second end post and tap them into place until they are all snugly home. You may find you need to do a bit of fine adjustment to make this work. Do not over force them as you could split the end rail.

Now mark the centre point of the hurdle at top and bottom and cut a brace piece to be fitted vertically; you can drill a hole and nail this in place before cutting and fitting two diagonals that will hold the hurdle square (check the angles at the corners to make sure it is square before nailing into place). You may need a bit of assistance to make all the crossing points touch especially if you are using rather bendy wood for rails. The nails should be long enough to go right through both the brace and the rail and be clenched flat at the back. Trim the brace pieces neatly at top and bottom and stand back and admire. You only need another three and you have a temporary sheep pen.

CLEFT POST AND RAIL FENCING

Sturdy post and rail fencing can be made from either oak heartwood or chestnut; most other woods are not durable enough with the possible exception of larch. The posts can be cleft out of large diameter trunks or cut out of round wood with a chainsaw to square them up. These will always look sawn unless

you go to the considerable effort of adzing them smooth.

For a 4ft (120cm) fence you will need your posts to be at least 6 or 7ft (182cm or 213cm) long, so cut your timber to length and examine the ends carefully for any signs of splits or cracks that radiate from the pith or core of the tree, as you will want to work with these weak points as the easiest way in. If you are using oak, you will need large timber with plenty of heartwood; it is normally cleft with the log on the ground because of its weight.

The best way to get a split started is to place a fairly sharp axe head over a crack that is running through the centre of the log. Then give it a sharp blow with a wooden mallet – but watch your fingers! When the axe head has bitten into the wood then you can really swing the mallet. If the log is large and there are no obvious cracks, it may be easier to start on an edge of the log at its end as the bark and sapwood are not so hard and the axe will bite in more readily and is less likely to bounce off. When the axe head is buried in the wood and a split is beginning to open use a second iron wedge to work along the crack, knocking that one in until the first one is freed and alternating all the way to the far end.



Fig. 8.11 Splitting an oak log lengthways with the help of a wedge.

With a large log the crack may just open on the top side that you are working on and not all the way through so you will have to turn the log over and repeat the process down the length of the underside of the log. The two halves should be almost apart by now but with oak especially there will probably be a number of fibres that are still holding it together. These can be severed with some deft blows with an axe. Do take care that the wedges are not still buried in the log, as contact of the axe with the metal could be dangerous and definitely bad for the axe.

This process sounds pretty straightforward but of course in the real world you will find that the wood grain is spiralled creating a corkscrew effect as you split it down. Or perhaps the split is determined to run off; even relatively small knots can have you huffing and puffing with the extra effort needed to finish the cleft. If this happens, you can try to break back into the log in a better line by using the sharper axe head to cut through the fibres until you are back to the centre. Or you may have to turn the log over before you get too far along and try coming at it from the other side. Once it is in half, the work gets a lot easier. Quartering the log is usually straightforward and a quarter is a good place to start to make a squared post. Splitting away sap wood is quite tricky and requires a lot of hard work with a heavy side axe. Taking a chainsaw to it is cheating but can save a great deal of time and energy.



Fig. 8.12 A plunge cut with a chainsaw to make the mortice joint.

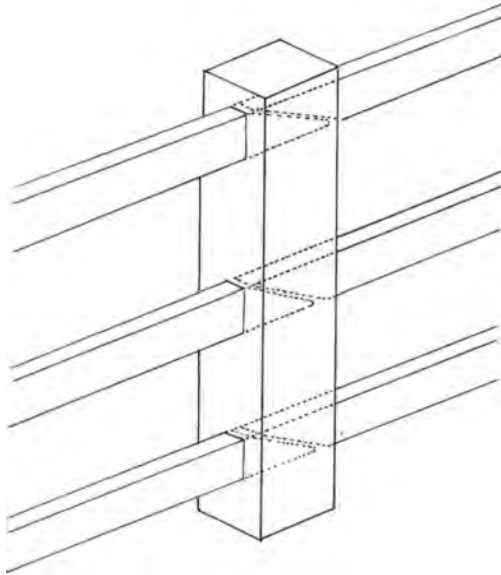


Fig. 8.13 Detail of the mortice joints.

Decide which end is going to be the top of the post and mark the positions for the mortice joints on them. If you are doing a fair length of post and rail then hand drilling and chiselling out the mortices is not really an option. The method of choice would be a plunge cut with a chainsaw, an operation that is not without risk and should only be attempted by someone experienced in chainsaw use, and only then with all the necessary protective gear on. Try and get the mortice hole at least 2in (5cm) wide and 4in (10cm) deep and as neat and even as you possibly can. The end posts can be morticed just half way through to take the end rail; all others need to be bored all the way through so that your rails can meet and overlap within the joint.



Fig. 8.14 A pile of rails and a woodland break.



Fig. 8.15 Cleft oak fencing. (Photo: Ian Taylor)

The rails will be cleft out of the wood in the same way but you can split down to eighths or even sixteenths depending on how big the original log was. It is possible to split a half or a quarter into three (sixths or twelfths) but it is altogether more fraught with pitfalls if you try to split wood into one smaller (one third) and one larger (two thirds) as the natural tendency for the wood to run out will be even stronger. However once you get down to twelfths, you should be able to control the cleaving with the leverage of a froe in a jig. ([See Gate Hurdles.](#))

The rails may require a bit of trimming to remove the sapwood and any ragged core and just generally tidy them up a bit. They should not be smooth and splinter free (unless this is really bespoke fencing to keep prize beasts in), they should be fairly rustic. When positioning the rails in the fence keep the wedge-shaped pieces all the same way up (either way, your choice). It may be easiest to do the next bit by laying all your components flat on the ground. This is so you can see exactly where the rails overlap and you can shape down the tenon ends with a drawknife so that they fit snugly into the mortice hole. When you have a few lengths prepared you can start erecting the fence. The first post must be secured into the ground; ([see Chapters 6 or 7](#)) then insert the rails into their mortices and simultaneously insert them into the second post.

A second pair of hands makes this job easier. When you have the rails in place ensure that the post is upright and still in line and secure that post into its hole. Continue working your way along the fence line inserting rails in the fixed post end and then offering the post up to them at the other end then securing the second post. This makes a terrifically strong sound fence but it is not suitable for sheep or small animals unless you increase the number of rails or reinforce a two- or three-rail fence with galvanized netting.



Fig. 8.16 Similar techniques were used for this woodland bridge.



Fig. 8.17 Cleft oak paling fencing.

HEDGING STAKES AND BINDERS

Hedge laying is one of the most interesting farm skills, as it has so many local variations. The South of England style and the Midland style have their central row of stakes and strong hazel binders (known in some parts as ‘ethering’) to create a woven top line to the hedge, while in Lancashire and Westmorland,

the hedge has two rows of stakes and no binder, but the brush covers the ‘pleachers’ or cut stems. Many hedgelayers insist on using hazel stakes as these are perfect for the job and they only have to last a few years until the hedge is established once more.



Fig. 8.18 This fence in Slovakia is made from small dimension coppice materials with three larger long horizontals per section; It was being used as sheep fencing.

HAY CRIBS

Cribs for feeding animals were often made on the farm. These were made with good clean ash rails at the top and the bottom, which were drilled part-way through with an auger at even spacing all along. Then hazel rods were inserted into the holes and the whole thing was held together with some wire, which was looped around and then twisted up as in a Spanish windlass (see Chapter 4, [Fig. 4.48](#)) to hold the rack tight. This could be hung up on the wall, fixed at the bottom and held away from the wall at the top then filled with hay for fodder.

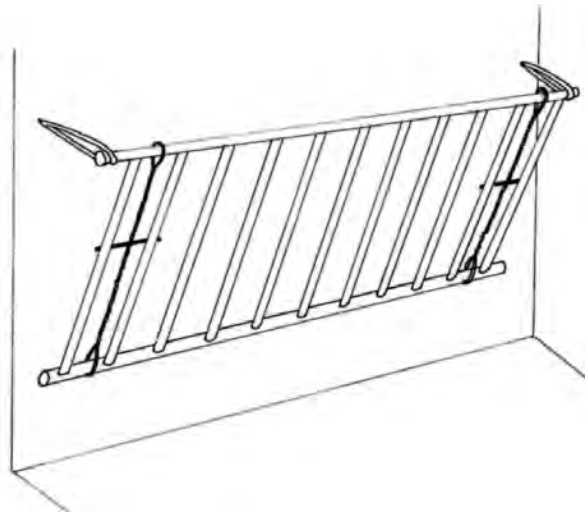


Fig. 8.19 A hay crib made of ash and hazel.

SHOVELS

Wooden shovels have a long history dating back to before the arrival of the metal shovel. The metal shovel did not entirely make the wooden shovel obsolete, as there were specialist uses where metal was considered unsuitable. This includes apple shovels and malt shovels used in distilleries (notably Bowmore on Islay in the Inner Hebrides). Gunpowder works favoured wooden shovels, as a metal implement could cause a spark with disastrous results. There are a few folk making wooden shovels these days, but where they are made in the traditional style they are cleft out of a large, 12in (30cm) or more log of poplar or limewood that will become very light in weight when seasoned. The shape is roughed out with a saw then shaped with a side axe, followed by a drawknife and finally a spokeshave or curved scorp to hollow out the shovel face. One source suggests burying the newly carved shovel in sawdust for couple of weeks, as this will slow down the seasoning and reduce the likelihood of the wood splitting.

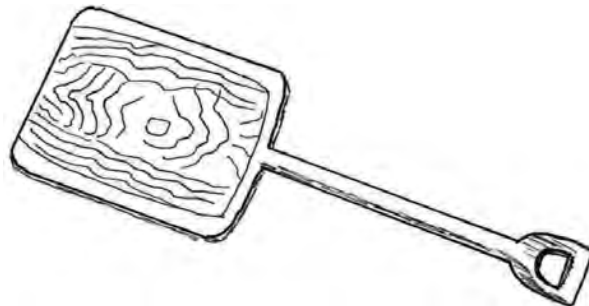


Fig. 8.20 Wooden shovel.

PITCH FORKS AND HAY FORKS

Pitch forks are traditionally two-pronged and are used for pitching, that is, for heaving hay, straw or even small bales on and off carts. The prongs have long been made from iron as often great weights are moved with such a fork, but there would often have been a less expensive version, probably made in the same way as the forks below. A forked stick could be used, but to get the right configuration for fork for effective use without steaming and bending would be rare.

Hay forks were normally three-pronged but there are examples of wooden forks with up to five prongs. Ash is the usual species used as it is most robust, but hazel or willow could be used. The forks are made by sawing the end of the pole in the same way a split rake stail is sawn. It is difficult to get the three prongs the same width and accurate sawing is needed. Once sawn, a bolt or rivet is inserted through the stail to stop the saw cut developing into a split. These prongs are steamed and bent over a complex jig. The jig will take much longer to make than the forks, but for your own satisfaction and to learn the technique, it's worth having a go. The jig needs to be designed so that the prongs are bent and separated, so the jig needs to bend them in two dimensions. The curve of the prongs is important and has to be correct for the user; if it's not right, the fork will be difficult to use. Steve Tomlin who occasionally makes forks, made a small former that helps make the fork shape while reducing the chances of the saw cut splitting further down the stail. He uses cleft ash, reduced to dowel-size for the supports that go between the prongs.

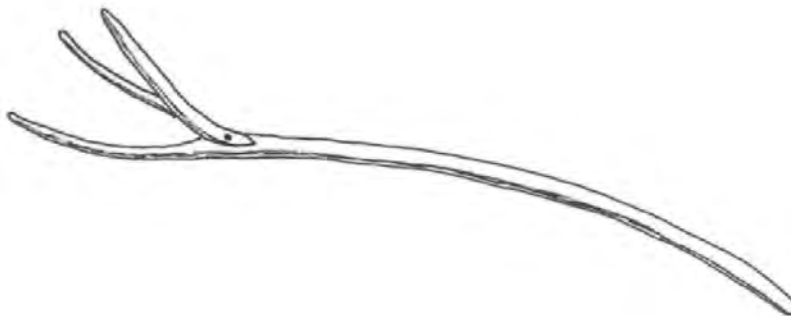


Fig. 8.21 A pitch fork with a third tine attached.



Fig. 8.22 Small jig to hold fork prongs apart at steaming.

TOOL HANDLES

Cleave your handles from a fast grown, clean ash log with a minimum of 6in (15cm) diameter. Cut the log to the correct length (with a little extra for luck), and cleave into quarters, sixths or eighths depending on the size of the log and the size of the handle. Start the shaping with a side axe, then use the drawknife, drawing a guideline on the end of the shaft. Hold the handle blank gripped by a shave horse and carefully pare the wood down until almost the right size and shape; allow a little extra for shrinkage. Your handle should now be seasoned to remove the moisture from the wood; this can be done naturally over time or speeded up by placing the handle blank in a warm place, such as an airing cupboard. When dry, complete the shaping and bring it down to the correct size with a spoke shave or a whittling knife. It can be sanded if you are not too much of a purist. The tricky part of fitting a handle is getting a tight fit so that there is no danger of the head flying off in use. Make a cut line down into the handle so that you can insert a wedge – either a purpose made metal one or one from a hard wood such as oak heart-wood, to hold the head in place.



Fig. 8.23 Finished three-tined fork. Maker: Steve Tomlin.

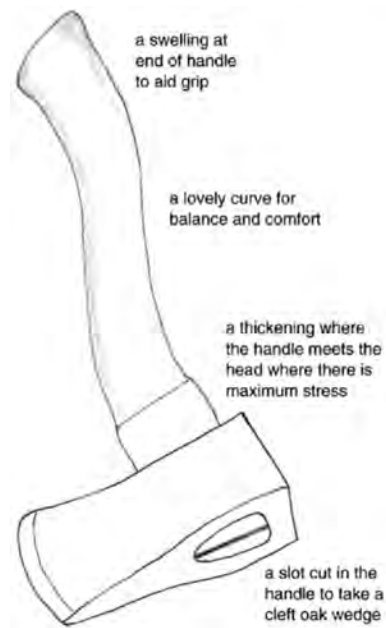
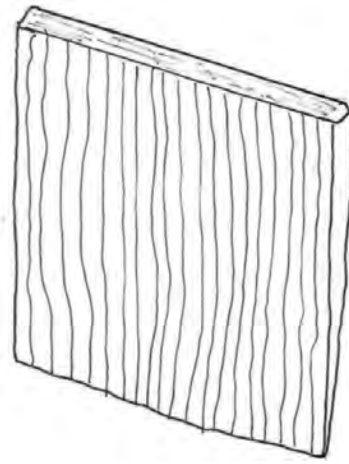


Fig. 8.24 Making a new axe handle.



a sliver of
seasoned
hardwood cleft
and shaved down
to a sharp edge

Fig. 8.25 Oak heartwood wedge.



Fig. 8.26 Steve Tomlin with one of his traditional English scythes set on a snaith or snath (handle) that is almost straight.



Fig. 8.27 This is a snaith made from a roundwood pole. It might utilize a natural fork or have the side handles attached.

HAY RAKES

In *Coppicing & Coppice Crafts*, we looked at traditional hay rakes in what is sometimes said to be the northern style. These are made with a hazel bow to support the rake head.

There are very few rake makers left in the UK now, but we visited Steve Tomlin who has studied rake making and currently has twenty different rake styles in his repertoire. Steve has measured dimensions and used rakes made in many parts of Europe too. A rake needs to be tough but light enough to be used for a day's work in the hayfield. In this section we'll be looking at making a rake on what is considered to be the southern pattern, which has a split handle rather than a hazel bow stay to support the head.

The handle or stail is made of an ash or hazel pole with the bark on or more usually peeled, varying from 1–1.5in (25–38mm) in diameter; handle length is normally up to 6ft 6in (190cm) long, but may be a bit shorter for use in the garden. It needs to be straight and smooth – you can use a slightly bent pole and straighten it by securing the end in a brake and applying pressure to the curved section or use a steam box as described in other sections. It is probably

only worth using a steam box if you are making batches. The optimum time for doing this is about six to ten weeks from the time it was cut. The handle can be made smooth by using a stail engine, which is sprung loaded so that it will expand as the handle tapers from thin end to thick. The stail engine shaves the bark off and smoothes the handle as it turns. When complete, cut the head end of the handle down its centre, being very careful to make sure the cut is straight. The cut should be about 21in (50cm) in length.



Fig. 8.28 This rake uses an ash bow for support. Maker: Steve Tomlin.

The sawn section will continue opening into a split if not secured, so the normal method of stopping this occurring is to nail a piece of tin plate around the handle where the cut stops; you can also use a thick wire tie. The split ends can be shaved a little further down to about half an inch diameter



Fig. 8.29 Stail engine.



Fig. 8.30 Detail of split stail rake head. Maker: Steve Tomlin.

The head of the rake is normally made of ash but could be birch if you like. A log is cleft down into slim segments and then shaped with a drawknife until you have an oblong bar 3ft (90cm) long, 1in (25mm) wide and 0.75in (20mm) deep. This will need to be seasoned before the rake is assembled; six months in a drying rack should be fine. Of course, you can vary the size of the rake head; a 3ft (90cm) wide rake is large and quite heavy, a smaller rake for use in the garden is just fine; simply reduce the dimensions accordingly.



Fig. 8.31 Mini split stail rake. Maker: Steve Tomlin.

The teeth are usually ash wood and are about 4in long (10cm) and cleft down into regular squared shapes. A good tip for this is to cut your ash log to length and mark the top of it with lines 0.5in (12mm) apart in both directions. Then bind the log around with string and start splitting along the lines using a froe and a mallet. The binding holds the log together while you split it in both directions so at the end you have a bundle of peg blanks. Discard the outside pieces with bark on.

The square blanks are then hammered through a tine cutter. This will cut the soft green ash wood and turn the square section into a cylinder. The number of teeth depends on its ultimate use and the local traditions; some areas have a tradition of having an odd number of teeth. The centre of each tooth is normally 0.5in (12mm) apart. Leave them to dry out and shrink before fitting them to the rake head.

To assemble, the handle must be fitted to the head. Drill two holes in the head with a bit the right size for the stail ends; you may need to shape these ends a bit further to get them to fit. The holes for the two stail ends are usually three teeth apart – about 4.5in (115mm); some rakes have a much wider split stail and in others the stail is split into three or four – this makes for a much more complex rake project. Use a nail in each stail end through the head to secure them in place

Depending on the end use and local style, the rake head is normally set at a

slight angle to the stail. A 15-degree angle makes the rake easier to use and more efficient in the field. You can steam the split stail if you are concerned about it breaking or know you are using a brittle wood but it is not always necessary.

Finally, drill the cross bar to make the holes 2.5in (10mm) for the teeth and fit them (from your drying rack or store rather than fresh green teeth). The grain of the teeth should be at 90 degrees to the grain of the rake head; this will reduce the chance of the head splitting as it dries further with the teeth now in. A spot of wood glue will help keep the teeth in place; you should shape the teeth ends with a drawknife or sharp knife; this makes the rake easier to use and reduces the chance of early damage to the teeth. Traditionally all the joints were drilled through and pinned with cleft ash pins.

STICK MAKING

For time immemorial, human beings have picked up sticks and walked with them. Whether to aid balance when simply walking or to lean on, or for a particular use, such as helping to catch sheep, many people still don't feel quite right if they are out for a walk without a stick. There are many types of stick with a wide variety of features. The top can be made from the same or a different wood and many handles are made with horn or antler; some are carved into animal head designs, some of these are painted, and you can have a variety of things set into the handle, such as a compass. Sometimes sticks are heavily finished with a shiny varnish but we prefer a more natural and traditional look.

Still widely available, sticks are often made by specialists who don't generally make other things, and it is regarded by some as a bit of a dark art. In reality though, you can make your own sticks quite easily to use or sell using some of the skills picked up making other products.

Sticks are usually made from hazel but can be made from anything reasonably straight and strong; other woods often used include sweet chestnut, ash, blackthorn and holly. Some sticks are naturally twisted by having honeysuckle growing up them; these can be sold for more than a standard stick blank.

You need very little in terms of specialist equipment to make a stick. However, almost all sticks will need a degree of straightening. This can be done in batches using a box steamer, described in detail in [Chapter 2](#). Twenty to thirty minutes in a steam box will be sufficient for most sticks to become pliant enough to be straightened. One stick maker uses a wallpaper stripper to provide the necessary hot air. Although quick, this is rather a crude method and risks either burning the stick, or the stick snapping as it becomes too dry. The beauty of a steam box is that it heats the whole stick at once and the moisture aids the bending.



Fig. 8.32 Chestnut walking sticks after steaming.

Using thick gloves, take the stick from the steamer and work it in all the places that have curves or bends to cancel them out. You can use a specially constructed jig or most cleaving brakes are just the job. Keep looking down the stick to check for straightness and any remaining kinks. If you are making a stick with a traditional curved handle then this is also the time to bend the handle into shape. You will need a former or jig for this job, which allows the wood to be bent around it to the same consistent shape time after time, as well as reducing the chances of the stick simply snapping. Have a suitable piece of knotted twine to hand that can be slipped over the bent handle back to the stick to keep the shape. The handle should be kept tied like this during the drying process for it to stay in shape.



Fig. 8.33 Finished walking sticks at a show.

Cut the stick to length and put away to dry out fully. This will take between a few weeks and a few months under cover depending on the species and situation of the drying area. Blackthorn in particular, takes a long time to dry because of its density. Some stick makers treat the stick with boron before drying to reduce the chances of attack by wood-boring beetles. When ready, you can finish the stick, all it will need is removal of any remaining knots or burrs, a light sanding and a rub down with a light oiling. You can fit a brass, copper or rubber ferrule on the bottom by simply trimming the stick end a little to make this fit. Fancy handles are not within the remit of this book, but you

can have a lot of fun personalizing sticks.

Thumb sticks use a natural fork in the stick to create a comfortable place to rest the thumb when using the stick to lean on. The entire process is the same as before, except more attention should be placed on sanding and honing the cleft where the thumb goes to ensure it is comfortable.

CONCLUSION

Despite the modernization of farming, it's great to see that there continues to be a demand for greenwood products such as fencing, hedge stakes and even hay rakes. There has recently been a renaissance in the use of scythes for cutting grass. We are confident that demand for these agricultural items will continue to grow and the popularity of low impact farming will secure their future.

Chapter 9

The Future for Greenwood Crafts

What is the future for greenwood crafts? On a national level the outlook is encouraging as there is an increased emphasis on woodlands and trees for public recreation, nature conservation and for carbon capture. Low technology solutions and the local agenda provide the springboard for individuals to meet a growing demand for homegrown wood products.

Some of you may be inspired to set up a greenwood business and in this chapter we look at some of the practicalities of setting up as a self-employed craft worker. Trying to compete with cheap imports or replicating the work of others in your area will not necessarily produce a sound business model, so we will take a look at different ways to innovate within the industry. We conclude the chapter with a mini tour of some of the more original work that is being created by craftspeople in Britain today.

TURNING A HOBBY INTO A BUSINESS

Some readers may have long dreamed of giving up their day job and turning their passion for wood into a career. Juggling a job, family and friends, there is never enough spare time to spend developing products and honing your skills. But if you are lucky enough to have waged work, voluntarily giving that up for a precarious life of self-employment can seem terrifying.

DO YOU HAVE WHAT IT TAKES TO MAKE IT IN BUSINESS?

When thinking about setting up in business consider these questions:

- Is your work of a saleable quality?
- Can you turn out a high quality product again and again?
- Are you temperamentally suited to mass producing low value items as well as unique pieces?
- Do you have the personality to be a salesperson as well as a craft worker?
- Do you have the support (from family/partner) to make that rocky transition from wage earner to self-employed entrepreneur?

- Do you have some financial backup and a business plan so you can get yourself up and running without ending up in debt?

If you can answer yes to most of these questions then you may well have a budding business that you could set up and grow.

Budgeting

It might help to start with a realistic look at how much you need to earn to support yourself. Use the budget calculator in Appendix I and set out all your outgoings including holidays and treats. From that, calculate what you need to earn each week. Your business costs should be as low as possible, but be realistic about material costs for your chosen crafts and consider all the extra costs that may be associated with a business: insurance; accountant; upgrading your vehicle; rent of workshop; tool replacement; remedial massage; website and so on. These must all be added to your basic budget.

Self-employment

Set yourself up with an accounts package or at least a good accounts book in which you can record all your expenditure and income. If nothing else, use an Excel spreadsheet and make sure you have a fail-safe system for keeping and filing the receipts for all purchases related to the business, as this expenditure can be set against your business income and ultimately reduces your income tax liability. Register with the tax office as self-employed; this should involve only a phone call, but bear in mind what date you are giving for your start of business. This may be the date you decide to make it official. You have a choice to file a part year and then run your business year from April to April in line with the tax year, or just use your actual start date and run your year from that date for twelve months.

Efficient production

One of the keys to a successful business is efficiency of production. Only the very top high end pieces will be commanding prices that will allow you to invest many hours into their production. The chances are that when you start out you will be inclined to keep prices down to stimulate interest and allow for your reputation to build. However you decide on your pricing policy, you will

need to become as efficient as possible in producing wares for sale – as the saying goes, ‘time is money’.

Ways to improve efficiency

- Set yourself a target number of pieces to produce in a set time and try to improve your timings.
- Assemble the tools that you need and make sure they are sharp and in working order prior to starting.
- Prepare the materials in batches so that you can use the same tool to complete that stage for all the products you are making in one session.
- Take regular breaks but be disciplined about how long you have and keep yourself to a tight schedule.
- Don’t cut corners on quality but do think through what you are doing and see if there would be a better way to do it, perhaps with a different tool or improved jig to hold the item.
- Are you struggling alone with a task that would be better tackled with two people? This is not always an option but you can always do a skills swap with a friend or someone in your local coppice or greenwood group.
- Try to avoid distraction – there will come a time when you, like some of the craftspeople featured in this book, are able to produce beautiful, saleable items at speed while holding forth on the subject to a crowd of interested bystanders. However, while you are still learning, it is probably a good idea to turn your phone off and put a ‘do not disturb’ notice on the door.



Fig. 9.1 Mass producing components increases efficiency.

Marketing

There are numerous opportunities for craftspeople to demonstrate their skills at craft shows and markets, especially farmers' markets. As a rule, one should always try to be paid for demonstrating, as it is difficult to focus on selling at the same time as making. However, if you have plenty of stock you want to shift and you are happy to do some whittling to draw the public's interest, then you should consider doing some demonstrating for free in exchange for a pitch. If you are drawn into the realm of paying for a stand then you really do have to focus on the best ways of selling your product, as you must sell a certain volume before you break even.

Having a unique product will definitely help you to stand out in the crowd. There are many show organizers up and down the country who are watching out for unusual, eye catching stands and they often have a budget to pay for a demonstrator who can give value for money in terms of entertaining the public. An attractive stand and plenty of small items that people can buy on impulse will help create a buzz around your stall. Uniform labelling and clear pricing is generally a good plan, as people tend to assume they can't afford something if it is not priced. Having some written information people can take

away with them is very important, even if it is just a business card or a simple flier, as people will take your information away with them and may call you later in the year asking for products or a commission.

Shows are not your only outlet. You may wish to try galleries or gift shops but the disadvantage of these is the mark-up that they will charge – anything from 35–50 per cent. For you to get the price that you want for your work, its price will have to be doubled and can become unrealistic, so this approach is going to be suitable only for bespoke, one-off pieces.



Fig. 9.2 Attending a local show will raise your profile.

One way of maximizing the return for your work and effort is selling on the Internet. A good website is an essential investment and if you are able to offer mail order, the world becomes your market place. You may just step back and consider the ethics of sending your goods by parcel around the country or even the globe; setting geographical boundaries is a good compromise. One benefit of this type of virtual shop front is that you don't need to keep a huge amount of stock but can work to commission. A number of businesses these days operate just through selling on eBay, though there are very few greenwood craft business doing this. Social networking sites are good to get your name out there and provide a forum for good quality photos to show off your skills. Videos of how to make things – a type of virtual demonstration – could be another string to your bow.

Business plan

There are many occasions when a formal business plan will come in useful, not least if you need to borrow some money or apply for a grant to enable the business to grow. The essential headings of a business plan are: Business Proposal; Market research; Pricing policy; Capital requirement; Profit plan ([see Appendix](#)).

Insurance

As a minimum, your business should carry public liability insurance. This gives you cover for things such as customers having an accident when they visit your workshop, or at a show or demonstration. If you are running courses, you will probably need separate insurance to cover that too. If you are renting a workshop, you should discuss insurance with your landlord, as one of you will need to pay for insurance cover. It is important that your tools are covered by insurance. Tools are expensive, and their loss, through theft or fire for example, could ruin your business; you should make sure that your tools are covered if they are left in your van. Finally, if you employ help, or work with volunteers or anyone else to whom you give instruction at work, you may well require employer's liability insurance. After many years of insurance premiums being virtually out of reach, the market is more competitive again and insurance shouldn't set you back too much.



Fig. 9.3 You will need insurance to cover employees even if they are volunteers.

Qualifications

There are many courses you can attend that are not accredited. These courses vary tremendously in quality – some trainers are renowned and have excellent teaching skills as well as knowing their craft. They will probably offer everything you need to know to become accomplished at a particular craft, skill or technique – you probably won't get a qualification or even a certificate of attendance, but this won't matter. In fact there are no individual greenwood crafts for which you can get a qualification. However, a huge range of people run courses, ranging from one day to one week, depending on the craft – see the Course Listings for some suggestions. In the North of England, the Bill Hogarth MBE Memorial Apprenticeship Trust (BHMAT) runs a three-year apprenticeship that culminates in obtaining the Bill Hogarth Coppice Diploma. This is a fully accredited programme of training, mentoring and close working with a sponsoring business. Candidates for the apprenticeship attend an event called 'Woodland Pioneers' at which they can try out their skills and aptitude, and then apply for the programme. The Greenwood Centre also offers the Bill Hogarth Diploma (funding permitting) and has an accredited certificate in coppicing and greenwood crafts. LANTRA has developed the National Occupational Standards for Coppicing and Greenwood Crafts, so courses based on these may be found at your local college.

There are some formal qualifications that may well be essential or useful, depending on what skills or crafts you are interested in. Many of these have a quasi-legal status such as use of a chainsaw; there may be others, which you'll need to enter some organization's land or to satisfy an insurer or co-worker, such as trailer handling, for example.

Support networks

From a national perspective, there is a reasonable support network of individuals and groups. Some areas, perhaps where there is a more recent history of coppicing and greenwood crafts, have active, vibrant and growing associations made up of like-minded people. With a little luck, you will be close enough to make it worthwhile joining and taking part in activities; having said this, there are large parts of the UK with little or no network at all. If you are lucky enough to have a group covering your area (they normally cover one or more county), it may have joint promotional materials and organize

attendance at shows for members, which is a useful marketing tool and can be worth membership in its own right. Some of the groups have helpful newsletters, discussion forums, ideas about tools and suppliers and even organize large-scale buying in of charcoal bags for example. In Cumbria, the Coppice Association North West (in conjunction with BHMAT) has taken a 25-year lease on an ancient semi-natural coppiced woodland; they have written a management plan for it, obtained a Forestry Commission grant and hold regular work parties for members, with a fantastic opportunity to learn, socialize and take away raw materials.



Fig. 9.4 Learning from experienced coppice workers – Alan Waters in Sussex.

Summary

Weigh up the pros and cons carefully before turning what may be a fantastic hobby that you love doing into a full-time job. Everything loses its charm with repetition. Although the freedom and self-determination of running your own business may seem very attractive, the downside is the sheer quantities of self-motivation and perseverance that are required. There are two main stresses with self-employment – not enough work (insufficient money) and too much work (lack of time). Getting a balance between the two is an art form in itself.

Try and keep your overheads as low as you can; that way you can get into

profit early on and really feel you are succeeding when you can afford a well-earned weekend break (a two week holiday in the south of France may take a little longer to achieve). Try to build in variety, new products and new outlets, work that involves other people and work that allows you to be alone. Step back from time to time and check that you are still enjoying what you are doing; creativity is a terrific source of human happiness and if you can tap into that, then, as long as you look after your body and treat it kindly, you should have a long and fulfilling career ahead.

If there is a message in this book it is this – you too can aspire to support yourself through greenwood crafts. The many craftspeople whom we have featured in this book have all, through a mix of creative talent, skills which they have learned, sheer hard work, single-minded determination and a little luck, forged a living from trees and so can you.

INNOVATION

Much of the progress in wood technology has been in the making of stronger products, often using less material. These range from sublime creations utilizing lamination to the ubiquitous so-called wood products made of sawdust and glue that we all live with in modern buildings. Greenwood working already maximizes the strength of the material used. The simple fact is that cleaving keeps intact the strength of the wood fibres – it seems amazing that we almost lost sight of that fact along the way. Not only that, it uses low technology solutions that are accessible to everyone, from the Stone Age to the present day in an unbroken legacy of knowledge and skills.



Fig. 9.5 Cup cake carousels by Sue Swatridge.



Fig. 9.6 Sue has also been making some lovely hair slides and bangles from steamed wood.

In this final section of the book we want to celebrate those who are pushing the bounds of creativity and coming up with products that make us say ‘I wish I had thought of that’.

The delightful cake carousels in [Fig. 9.5](#) were made by Sue Swatridge who admits to being in a rich creative vein at the moment; she trades under the name *Against the Grain*, and sources the timber for her work in the woods that she works.

There has been a bit of a sheep theme throughout the book and so when we saw this next item there was no doubt it had to find a place to graze here. Designed by Elizabeth Cadd from Shropshire the sheep seat combines her love of wood and wool. Elizabeth works both as an artist and designer inspired by nature and has an eye for the natural shapes within wood.



Fig. 9.7 Sheep seat by Elizabeth Cadd in sweet chestnut and ash with a padded woven wood cushion.

There are a handful of people in the UK who can carry out the Eastern European art of fan-bird making. This is not perhaps immediately obvious as a greenwood craft (but we are reliably informed that it is), these delightful products are considered quite easy by those who have mastered the techniques.



Fig. 9.8 Carved bird in flower in pine and hazel by Sean Hellman.



Fig. 9.9 A music stand by Sheila Wynter – worthy winner of Best in Show at the Bodger's Ball 2011.

We particularly loved this music stand that we saw at the annual Association of Pole-lathe Turners event in 2011, The Bodgers Ball at Brockhampton Hall in Worcestershire – it won Best in Show.



Fig. 9.10 Ash bark quiver. Maker: Jonathan Ridgeon.

We have described making pots from birch bark in [Chapter 4](#), but look at this lovely ash bark quiver, stitched with spruce roots.

STEAM BENDING

Charlie Whinney

In our quest for innovation, we visited Charlie Whinney, until recently based in Oxfordshire but now relocated to a workshop in South Cumbria. Charlie studied architecture at Kingston University followed by furniture design and 3D Design for Sustainability at Falmouth College of Arts. In 2006 he co-founded Cornish design company *Sixixis*, designing many of the award-winning products. Charlie has created inspirational installations at The Dorchester Hotel in London, several different Harvey Nichols shops and the Renaissance Hotel in Washington DC. His design incorporated in a garden at the 2007 Chelsea Flower Show helped to win it an RHS Gold Medal. Charlie divides his time between designing and making, while providing creative consulting services to a range of public and private clients, and running design workshops at several UK universities.

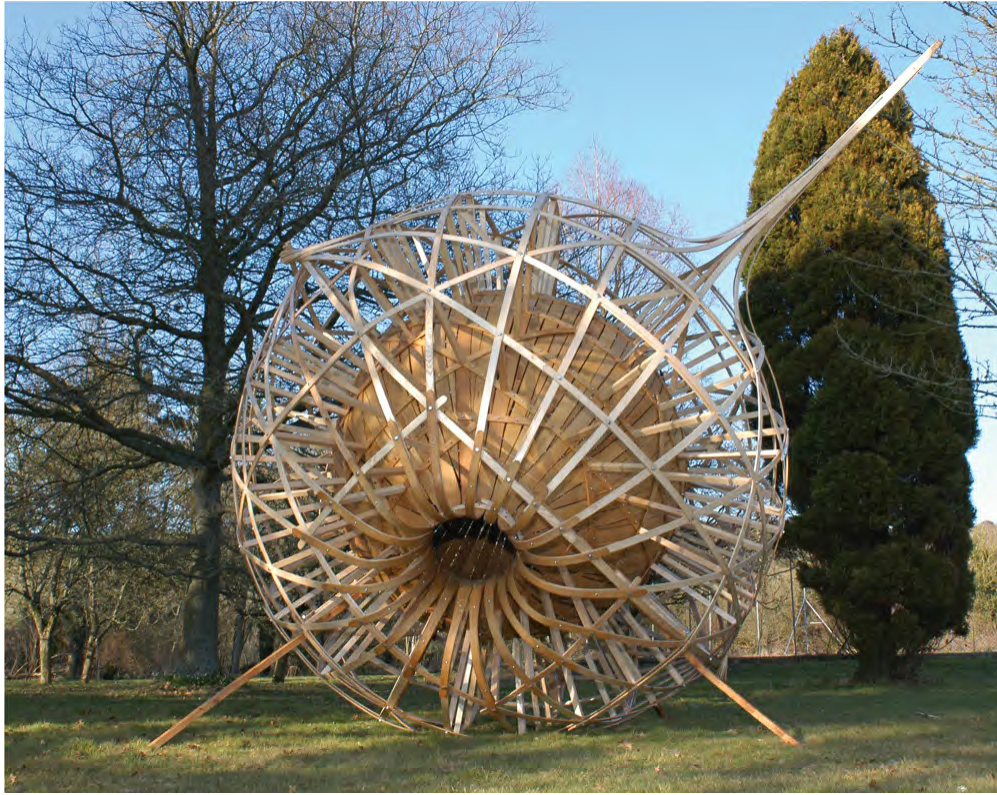


Fig. 9.11 Charlie Whinney's 4m Rolling Summer House (Pollen). (Photo: Charlie Whinney)

Not only is Charlie passionate about wood, but also about the design and making process. His passion for making jigs, forms and devices during the creative process is infectious – he really is an inventor and an engineer as well as a craftsman.

Charlie uses mainly ash, perhaps the most easily manipulated wood, its natural qualities of flexibility and toughness are an advantage, and it is one of the more readily available timbers. Sometimes he uses oak, as this also bends well. He buys his timber from local sawmills and takes care to source the right quality wood, which needs to be reasonably straight-grown and knot free. Any faults in the wood may result in total failure when it's being bent. The wood he uses is all green – dried wood is more expensive and there is little point in using dried wood when the steaming re-wets it completely; he gets much better results from using green wood too.



Fig. 9.12 Components of a sculpture being prepared in the workshop.

Charlie uses all of the many techniques available for bending, including free-bending (this can be done simply using the hands), using a form to bend wood over or by using compression straps. Wood can also be twisted rather than bent and Charlie often splits steamed wood to create ‘eyes’, to pass other pieces of wood through but sometimes as a feature in their own right.

Charlie has developed a spreadsheet to help work out much a plank can be bent, but he hardly uses it now and in reality, he can judge how a particular piece of wood will behave. There is no doubt that steam-bending is an art and a skill. It will test your powers of being able to envisage 3D pieces. Charlie has used a variety of techniques to help with design including sketches, paper modelling, computer aided design, photo montages and modelling with metal; he always makes a small scale version first of his more complex designs.

In the same way that much greenwood working involves using your imagination, being creative, experimenting and using the personality and characteristics of the wood being used, steam bending takes all these factors to the extreme. If patience and tenacity aren’t your strong points, you can still create unusual and unexpected designs with simple steam-bent wood. Charlie has made a stunning range of items using his steam-bending genius – from

abstract designs to designs based on the natural world such as pollen grains through to functional but beautiful chairs, benches and even fruit bowls.

One of Charlie's recent projects has been, in collaboration with Grizedale Arts, to bring together designers and coppice workers to develop a series of new products under the title *New Green Wood Work*. These products will be available as free open source designs for green woodworkers, and will be published in *The New Green Woodwork Pattern Book*. Charlie's comments are quoted in the captions.



Fig. 9.13 Kitchen book stand by Matt Turley: 'It works brilliantly with even the trickiest of books! And it looks great too. It is designed to be made from the natural triangular section slices of wood you get when cleaving round wood, so is very efficient in materials and production.'



Fig. 9.14 Bentwood 'W' stool by Ian Taylor and Jack Smith. 'It is an inherently strong design, it looks beautiful, we really like the curves, and the oak swill binding over the joints.'



Fig. 9.15 Oak necklace by Owen Jones and Gerry Smyth. These designers came up with a dozen original ideas from the brief: to make high value jewellery or personal ornaments using just the raw materials from the forest.



Fig. 9.16 Coat stand by James Mitchell: 'It is a beautiful, high value object that functions brilliantly, and is quick to make.' James is working on creating more spaces within the weave.



Fig. 9.17 Tealight holders by Vicky Naylor. A curved log was split to make a pair sculptural shapes. 'The concept is brilliant and simple, as the woods are always full of bent branches, and the result should always be beautiful.'

BACK IN THE WOODS

Finally back in the woods, we thought that perhaps sweet chestnut should have the final word; after all it has been the best timber for outdoor durability and all round versatility since the Romans brought the first chestnuts over as a staple of their diet. With climate change, we may yet see chestnut coppice thriving in the North of England or even Scotland.

This unusual shelter was built by Roger Day. His aim is to: 'create new products and markets for small diameter coppiced wood, and hence to support the vital continuance of traditional coppice land management'. This shelter is very much a work in progress and the design is not yet complete; but it definitely has potential and a certain style.



Fig. 9.18 'The Temple of Castanea Sativa' – Experimental Coppice Architecture Installation at Weald Wood Fair 2011.

CONCLUSION

The greenwood world is in good shape. It may not be exactly mainstream but it chimes at the heart of many of the important issues that are current, such as caring for the environment, low impact living, climate change and the local

agenda. In an era where it is easy to feel disempowered in the face of global economics and the stranglehold of corporate business, greenwood work can empower people with a sense of self-sufficiency and survival. It taps into our creativity and resourcefulness and feeds our souls.

It may just start with a tactile encounter with a lovely piece of wood, smooth, warm and somehow alive, and before you know it you are having a passionate affair with the world of woods and trees and ecosystems. You become part of a natural global system – nature – with its intricacies and interdependencies, a tiny player but with a crucial role to nurture and cherish life in all its abundance.

Appendix

Personal Survival Budget		£ Week		£ Week
			Total brought forward	
Mortgage or rent			Travel expenses	
Rates			Holidays/Days out	
Water charges			TV licence	
Gas/oil/coal/Calor gas			Newspapers/magazines	
Electricity			Entertainment/eating out	
Telephone (landline)			Subscriptions	
Telephone (mobile)			Children's pocket money	
Internet connection			Presents	
House insurance			Hire purchase payments	
Contents insurance			TV rental	
Life assurance			Court orders	
Pension			Maintenance payments	
Housekeeping	Food		Repairs to home	
	Cleaning		Replacement costs	
	Clothes		Credit card bill	
Vehicle costs (percentage not charged to business)	Tax		Total	
	Insurance		Less any other income (benefits, pensions etc	
	Repairs			
	Fuel			
Total carry forward			Total necessary to survive	

Profit Plan for:

[illegible]

Glossary

Adze – long-handled tool with a blade, set at a right angle to the handle, used to finish beams.

Ancient Woodland – a woodland that has existed continuously since at least AD 1600 and therefore, possibly since prehistory.

Auger – a drilling device.

Awl – small, pointed tool for making holes.

Barking – peeling bark from a tree, normally oak, for use in tanning.

Bast – the inner layer of the bark of elm or small-leaved lime, used for chair seating.

Beetle – large-headed, and often long-handled, mallet used for jobs where a lot of momentum behind the hitting action is required.

Bender – a temporary shelter made from using bent poles covered by polythene or canvas sheeting.

Besom – 1. Birch broom – the type that witches use, or are used for quidditch.
2. Description of the type of birch twigs that are used to make such a birch broom.

Bevel – the ground part of an edge tool, ultimately forming the edge itself.

Bill Hook – ubiquitous hand tool with a long blade often ending in a hook, used for coppicing, dressing out and riving hazel.

Billet – a short length of wood, varying from about 8–36in, sometimes split.

Binder (also sway) – long hazel rod used to fix thatch to a roof frame.

Black heart – discoloration in the centre of a tree – normally ash; does not always signify rot.

Bolt – round log blank before being used to make shakes.

Boy – device for clamping twigs during the process of making a faggot or besom.

Brace – hand-held tool used with a bit or auger to drill holes in wood.

Brake – device used to firmly hold wood being worked on or a small cleft peg used for preparing materials such as willow, roots or bramble.

Brash (also brish or brushwood) – the small twiggy branches resulting from dressing out the tops and side branches from coppice or standards.

Broache – a thatching spar. Riven hazel between 24–30in long pointed at each end with three strikes and twisted in the middle to form a staple and driven into the thatch; also known as brotch. Thought to derive from Old French *brocher*. (See also Spar.)

Bodging – the art of making chair parts on a pole lathe, perhaps now used more generally to describe the art of rustic chairmaking.

Bool – the hazel rim of a swill basket.

Butt – the lowest portion of a trunk, stem or pole.

Cabinet scraper – straight steel edge used for removing small amounts of wood and giving a piece a fine, smooth finish.

Cleave – a device used for riving.

Cleft – to split a segment of wood from a round pole; *see* also Rive.

Comb back – chair back designed with vertical rungs like a comb.

Coppice – underwood trees, which are cut, close to ground level every few years to allow multiple stems to grow again from the stool.

Coppice-with-standards – system of coppice management with scattered, single-stemmed trees such as oak or ash (*see* Standards).

Coppicing cycle – the number of years between cutting of the coppice – *see* Rotation.

Cross rod – hazel used in thatching.

Crown – the living branches of a tree above the main stem.

Dillaxe – another name for a froe, especially in Kent.

Dowel plate – steel plate with series of holes in, used to knock through pieces

of wood to make dowels or tines.

Drawknife – two-handled edge tool used by drawing it towards you to prepare pieces of wood, especially billets for turning.

Dumb-head – style of shave horse.

Ethers or ethering – the flexible rods that tie the top of a laid hedge together – usually hazel.

Faggot – bundle of twigs and small brash tied tightly for use as a firelighter.

Ferrule – protective tip to a walking stick in rubber or steel.

Free form – individualistic style of chairmaking tending to make best use of natural shapes of raw materials with few or no turned components.

Froe (also fromard, frower, thrower, lat axe) – edged blade for riving with a handle fixed at right angles to it.

Gad – hazel rod before it is cleft to make a spar or broache.

Gouge – type of curved chisel used in wood turning.

Greenwood – freshly felled living wood, still retaining its sap.

Green woodwork – the range of crafts that usually entail the use of greenwood.

Hardwood – any broadleaved tree, irrespective of the actual hardness of the wood; *see* Softwood.

Heads – the movable part of a pole lathe to which the worked piece is attached; also known as stocks or poppets.

Heartwood – the inner wood of large branches and trunks, which no longer carries sap.

Hew – to shape a log with an axe or adze.

Inshave – a deeply curved drawknife used for finishing or smoothing.

Jig – device used for holding a piece of work in shape, often freshly steamed.

Lat axe – name for a small froe, from “lath” axe, that is, for riving laths.

Ladder back – chair back designed with horizontal rungs like a ladder.

Ligger (rizzer in East Anglia or ledger or long rod) – length of riven hazel used in thatching.

Mallet – a wooden hammer.

Mandrel – attached to the piece to be turned on a pole lathe, the string is wound around it.

Maul – often known as a sledge-hammer, but can be a broad-headed mallet.

Mell – another name for a large mallet, with a round flat head.

Maund – an alternative name for a splint basket.

Moisture content – the amount of water remaining in a piece of wood, measured with a moisture meter.

Overstood – coppice that is still standing beyond its normal rotation.

Peeling iron – simple tool used to peel bark off trees, normally oak.

Pimp – a southern English term for a tightly tied group of twenty-five small faggots used one at a time for fire-lighting.

Pleachers – the cut stems of a hedge when it is laid to regenerate it.

Pole-lathe – a primitive type of foot-operated lathe traditionally used for turning chair components (*see* Bodging), constructed by bending a sapling over to provide the spring required to turn the lathe.

Poppets – the part of the pole lathe that adjusts to hold different lengths of wood while it is being turned; also known as the heads or stocks.

Porringer – small turned or carved, shallow wooden bowl.

Prog – a stout forked pole used for pushing and levering trees during felling or for turning the remains of a fire.

Rive – to split or cleave a piece of round wood; more often used to describe splitting of smaller pieces.

Riving hook – small billhook especially for splitting thatching spars.

Rod – small flexible underwood stem of less than 2in (50mm) diameter.

Rotary plane – tool used for shaping the ends of chair legs and stretchers; the same as a rounding tool.

Rotation – length of time between the cutting of a coppice coupe; *see* Coppice cycle.

Rounder – tool used for shaping the ends of chair legs and stretchers; sometimes known as a rotary plane.

Roundwood – wood of small diameter often used for fencing stakes.

Rounding tool – tool for making round tenons for chair stretchers or ladder rungs – can be a hand tool, or an attachment to an electric drill.

Sapwood – wood that carries the sap within a tree stem. This may be all the wood in a young stem or the outermost layer in an older, larger trunk or branch.

Scorp – tool used to shape chair bottoms in the Windsor style, or indeed any hollow feature.

Shake – cleft timber used for roofing, normally of oak.

Shave horse – sit-upon device used for gripping pieces of wood to prepare them with a drawknife; known simply as a horse or mare in some places.

Shingle – timber used for roofing, either hardwood or softwood but normally sawn.

Side axe – small but heavy axe with one bevel used for roughing out a piece to work on.

Sliding bevel – carpenter's tool with adjustable gauge to work out angles and transfer them from one piece to another.

Snead – a scythe handle.

Softwood – the timber of a coniferous tree, irrespective of the hardness of the timber.

Spar – hazel rod cleft and twisted used for pinning thatch on a roof; *see also* Broach.

Spelk – another name for swill basket, but also describes the oak laths used to weave the basket, from the Norse meaning splinter.

Splint – thin piece of wood, shaved flat (see *also* Stave).

Spoke shave – tool for doing fine shaving work.

Spring – 1. The first new coppice regrowth 2. Area of coppice cut or sold in a season – also cant, fell, panel, sale, coupe, hagg and burrow.

Stail – a long handle.

Stail Engine – tool for making a handle round.

Standard – a single-stemmed tree, never coppiced or pollarded. Any tree not grown from a coppice stump. Also maiden, prince, reserve, staddle, standil, store, teller and waverer.

Stave – flat, shaved piece of wood; for example in splint baskets.

Steamer – device used to steam wood – often home-made, there are numerous designs but normally consisting of a container of boiling water and a steam box to contain the material.

Stock knife – long-handled knife fixed to a chopping block used to make tent pegs and clog soles.

Stone – generic term used to describe any number of types of sharpening stone.

Stretcher – turned piece linking two parts of a chair – typically two legs; sometimes called a rung.

Sway (also binder) – long hazel rod used to fix thatch to a roof frame.

Swill (or spelk) – a basket made from woven boiled oak sapwood strips, now only made in the Lake District.

Tenon – the shaped end of a piece or work, such as a chair leg, which fits into a mortice prepared for it.

Tenon cutter – tool used to efficiently create tenons; can be a hand tool or an attachment for a drill.

Threading – another word for the process of dressing out a hazel rod.

Timber – tree trunk suitable for making beams or sawing into planks, normally derived from standards.

Tine – the tooth of a rake or fork.

Tine-former – labour-saving device to help make tines.

Travisher – tool for shaving chair bottoms giving a fine finish.

Treen – a description for small wooden items, often kitchenware.

Twilly hole – a hole designed into a woven hazel hurdle to enable hurdles to be carried over the shoulder on a pole.

Underwood – coppiced shrub layer growing under standard or timber trees.

Wood – 1. Part of the stem, inside the cambium, which supports the tree, carries water to the crown and stores reserves of food over the winter period. 2. Sometimes used (especially historically) to denote poles and branches, which are distinct as a product to timber.

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Further Information

COURSE PROVIDERS

Individuals

Mike Abbott

Bishops Frome

Worcester

WR6 5AS

Tel: 01531 640005

Email: abbott@living-wood.co.uk

www.living-wood.co.uk/green_woodwork_courses.html

Teaching: Most woodland courses run for six days, with all courses catering for beginners and experts alike, and are limited to a maximum of eight students, with two capable assistant tutors working alongside Mike. All necessary tools, equipment and green wood will be provided but you are welcome to bring your own. Beginners are urged to make one of the more simple designs, while those who have attended previous courses may be able to tackle an armchair or a full rocker.

Phil Bradley

Springlea

Deanscales

Cockermouth

Cumbria CA13 0SL

Email: philbradley248@btinternet.com

Teaching: All levels – willow and hazel basketry, garden structures, living willow.

Paul Girling

Farfield Mill Art & Heritage Centre

Garsdale Road

Sedbergh

Cumbria

LA10 5LW

Tel: 01539 21958 (Mill reception)

01539 736363 (home)

<http://myweb.tiscali.co.uk/paulgirling/GREENWOOD.html>

Teaching: Three-day courses in greenwood chairmaking.

Owen Jones

Spout Meadow

High Nibthwaite

Ulverston

Cumbria

LA12 8DF

Tel: 01229 885664

www.oakswills.co.uk/

Teaching: Three-day course on oak swill making. Starts with an oak tree and everyone ends up with a swill. Goes through the whole process including cleaving, boiling and riving the oak, dressing and steam-bending the hazel. No experience required.

Further Information

Ben Law

Prickly Nut Wood

Snapelands Copse

Lodsworth

West Sussex

GU28 9DR

Email: tony@permaculture.co.uk or

ben@ben-law.co.uk

www.ben-law.co.uk

Teaching: Ben runs a range of courses including roundwood timber framing and permaculture. Email for details.

Gudrun Leitz

Hill Farm

Stanley Hill

Bosbury

Ledbury

Herefordshire

HR8 1HE

Tel: 01531 640 125

Email: gudrun@greenwoodwork.co.uk

www.greenwoodwork.co.uk

Teaching: Gudrun offers two- to nine-day courses in green woodwork and chairmaking for novices, amateurs and experienced craftspeople. She teaches the whole range of greenwood crafts from pole lathe, turned Windsor chairs, ladder back chairs with varied seating, contemporary and free-form sculptural pieces, as well as an ever-expanding range of other projects.

Maurice Pyle

Tel: 0191 2524064 Mob: 07802 571 641

Email: maurice@mpwoodsmith.co.uk

www.mpwoodsmith.co.uk/woodcraft_training.html

Teaching: Over the years Maurice has run a wide range of woodcraft courses for groups and individuals, tutored not only by Maurice, but also other craft specialists. The training offered is from very from knowledgeable and experienced craftspeople, and the emphasis is on informality in a relaxed and enjoyable atmosphere. All tools and materials are supplied.

Jonathan Ridgeon

Tel: 07999 815798

Email: jon@jonsbushcraft.com

www.jonsbushcraft.com/index.htm

Teaching: Popular courses in willow basketry as well as bushcraft.

Steve Tomlin

Email: steve-tomlin@hotmail.co.uk

<http://stevetomlincrafts.wordpress.com/courses/>

Teaching: Spoon carving, rake making, birch bark pots and courses on scythes and scything.

John Waller, Underwoodsman Ltd

4 Mount Pleasant Cottages

Ticklebelly Lane

Blackham

Nr Tunbridge Wells

TN3 9UH

Tel: 01892 740303

Mob: 07788 748618

Email: info@underwoodsman.co.uk

www.underwoodsman.co.uk

Charlie Whinney

Email: info@charliewhinney.com

<http://charliewhinney.com/>

Teaching: Occasional masterclasses on steam-bending and design.

Robin Wood

Right Hand Police House

Lane Head Green

Edale

Hope Valley

S33 7ZA

Tel: 01433 670321

Email: robin@robin-wood.co.uk

www.robin-wood.co.uk

Teaching: Inspired by Scandinavian techniques, Robin runs spoon and bowl carving courses in the Peak District.

Joe Hogan

Loch Na Fooey Finny Clonbur Co. Galway Eire

Tel: 092 48241

Email: joe@joe Hoganbaskets.com

www.joe Hoganbaskets.com

Institutions

Centre for Alternative Technology

Llwyngwern Quarry Pantperthog Machynlleth Powys

SY20 9AZ

Tel: 01654 705950 Email: www2.cat.org.uk

CAT provides a very wide range of courses on all types of things from woodland management and greenwood crafts to renewables.

Greenwood Centre

Green Wood Centre Station Road Coalbrookdale Telford Shropshire

TF8 7DR

Tel: 01952 432769

Email: events@greenwoodcentre.org.uk

www.greenwoodcentre.org.uk/WoodlandCourses.htm

The Green Wood Centre offers a wide range of courses, both professional and general interest, including greenwood crafts; some of the courses are accredited.

Middlewood Trust

Backsbottom Farm Roeburndale West Lancaster

LA2 9LL, UK

Email: middlewoodtrust@phonecoop.coop

www.middlewood.org.uk/

Ecological buildings, low impact dwellings, alternative energy systems, and woodland crafts provide the basis for human and environmentally friendly living systems, which form the main core of the courses. The residents and Middlewood Trust use these resources as a focus for sustainable development and through education help to create a future with a future. Permaculture principles and ethics act as the background for this project.

Further Information

South West Community Woodlands Trust

Taliesin

Gelston Village

Castle Douglas

Dumfries & Galloway

www.swcwt.org

Based at Taliesin in Dumfriesshire, SWCWT has a hardworking core of people, trustees and members who make things happen: planting trees, running courses, cooking, building structures, clearing up after visitors and generally putting the world to rights!

The Sustainability Centre

Droxford Road

East Meon

Petersfield

Hampshire

GU32 1HR

Tel: 01730 823166

courses@sustainability-centre.org

www.sustainability-centre.org

Provides a range of courses about sustainability in a wonderful setting on the South Downs; includes greenwood craft and other woodland courses, some of them accredited.

The Woodcraft School

PO Box 64

Midhurst

West Sussex

GU29 9WL

Tel: 01730 816299

Email: www.woodcraftschool.co.uk

Not so much greenwood crafts, but an interesting range of bushcraft and survival skills courses and activities at Midhurst and at partner locations.

Woodland Skills Centre

The Warren

Bodfari

Denbigh

LL16 4DT

Tel (day): 01745 710626 Tel (eve): 01745 710477 Mob: 07711 472033

Email: enquiries@woodlandskillscentre.co.uk

www.woodlandskillscentre.co.uk

Located in the heart of the Clwydian Hills Area of Outstanding Natural Beauty in Denbighshire, just six miles from Denbigh and ten miles from Mold, Woodland Skills Centre offer an enormous range of woodland and craft courses to suit all ages, abilities and interests.

TOOL SUPPLIERS

Gerry Dawson

22, Marlpit Lane

Seaton

Devon

EX12 2HH

Tel: 01297 23826

Mob: 07971 521744

www.secondhandtools.co.uk/

Lakeland Coppice Products

Ian Taylor

Ramree

Brigsteer Rd

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LA9 5DY

Tel: 01539 738835

Mob: 07813 696161

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Jonathan Ridgeon

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Ian Swain

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Supplier of re-conditioned tools.

The Old Tool Store

Whitehaven Farm

Boston Road

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Lincolnshire

LN9 6HU

Tel: 01507 525697

Fax: 01507 523814

Email: ray@oldtools.idps.co.uk

www.oldtoolstore.com

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Email: matthew_robinson_uk@yahoo.com

www.woodlandcraftsupplies.co.uk/

Woodsmith

Tel: 0191 252 4064 (Mon to Fri 10am-5pm)

Mob: 07802 571 641 (if all else fails!)

Email: enquiries@woodsmithstore.co.uk

www.woodsmithstore.co.uk/shop

ORGANIZATIONS

Association of Polelathe Turners and Greenwood Workers

David Reeve

Little Malt House

Ockham Road North

East Horsley Surrey

KT24 6PU

www.bodgers.org.uk

Basket Makers' Association

www.basketassoc.org

Bill Hogarth Memorial Apprenticeship Trust

Email: info@coppiceapprentice.org.uk

www.coppiceapprentice.org.uk

British Trust for Conservation Volunteers (BTCV)

Sedum House

Mallard Way

Doncaster

DN4 8DB

Tel: 01302 388 883

www.btcv.org.uk

Coppice Association North West (CANW)

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Staveley Mill Yard

Staveley in Kendal

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www.coppicenorthwest.org.uk

The Deer Initiative

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LL14 5NS

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www.thedeerinitiative.co.uk

Forestry Commission HQ

Public Enquiries

231, Corstorphine Road

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EH14 5NE

Tel: 0845 3673787

www.forestry.gov.uk

Forest Stewardship Council (FSC)

11–13 Great Oak Street

Llanidloes

SY18 6BU

Tel: 01686 413916

www.fsc-uk.org

Forestry Commission Publications Section

PO Box 501

Leicester

LE94 0AA

Tel: 0844 991 6500

Email: forestry@mrm.co.uk

Health and Safety Executive (HSE)

(1G) Redgrave Court

Merton Road

Bootle

Merseyside

L20 7HS

Tel: 0845 345 0055

www.hse.gov.uk

Heritage Crafts Association

HCA Administrator

132, The Glade

Old Coulsdon

Surrey CR5 1SP

www.heritagecrafts.org.uk

Institute of Chartered Foresters

59, George Street

Edinburgh

EH2 2JG

Tel: 0131 240 1425

www.charteredforesters.org

Lantra Awards

Lantra House

Stoneleigh Park

nr Coventry

Warwickshire

CV8 2LG

Tel: 02476 419 703

www.lantra-awards.co.uk

City & Guilds – National Proficiency Test Council (NPTC)

Building 500

Abbey Park

Stareton

Warwickshire

CV8 2LY

Tel: 024 7685 7300

www.nptc.org.uk

Natural England

1, East Parade

Sheffield

S1 2ET

Tel: 0845 600 3078

www.naturalengland.org.uk

Royal Forestry Society of England, Wales and Northern Ireland

102, High Street

Tring

Hertfordshire

HP23 4AF

Tel: 01442 822028

www.rfs.org.uk

Royal Scottish Forestry Society

Potholm

Langholm

Dumfriesshire

DG13 0NE

Tel: 01387 383845

www.rsfs.org.uk

Royal Society of Wildlife Trusts

The Kiln

Waterside

Mather Road

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Nottinghamshire

NG24 1W

Tel: 01636 677711

www.wildlifetrusts.org

Scottish Natural Heritage

Great Glen House

Leachkin Road

Inverness

IV3 8NW

Tel: 01463 725000

www.snh.org.uk

Small Woods Association

Green Wood Centre

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Tel: 01952 432769

www.smallwoods.org.uk

Sustainability Centre

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Tel: 01730 823 166

www.sustainability-centre.org

Tree Council

71, Newcomen Street

London

SE1 1YT

Tel: 020 7407 9992

www.treecouncil.org.uk

Tree Advice Trust

Alice Holt Lodge

Wrecclesham

Farnham

Surrey

GU10 4LH

Helpline: 09065 161147

www.treehelp.info

Woodland Heritage

PO Box 168

Haslemere

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GU27 1XQ

Tel: 01428 652159

www.woodlandheritage.org

The Woodland Trust

Autumn Park

Dysart Road

Grantham

Lincolnshire

NG31 7DD

Tel: 01476 581 111

www.woodlandtrust.org.uk

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