Miles Davey of *Trend* helps us make an open riser set of stairs for our Woodworker cabin

Making an entrance

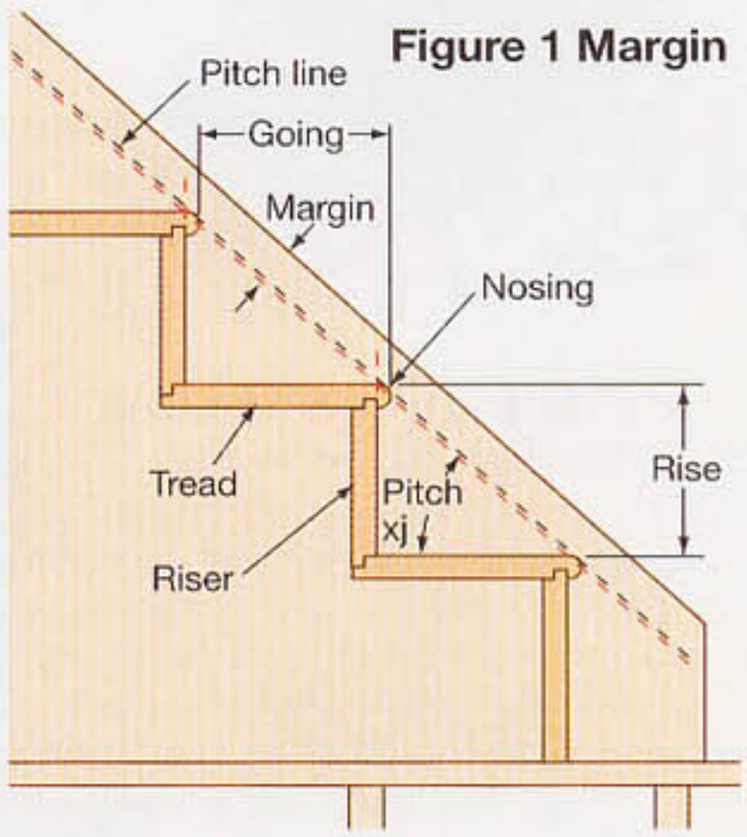
Stairways are often seen as as best left to a joinery shop but there's no reason why you can't make up your own for an exterior project such as our WW cabin. Using a stair jig will make the routing of the strings easy as long as you take a little care with the setting up. Always consult your local authority Building Department to check on dimensions before starting work on any domestic stairways.

Steps

1 Measure the opening of your doorway and the distance from floor or ground level to the opening. Make a note of the way the doors open and any obstacles that may restrict the stairs.

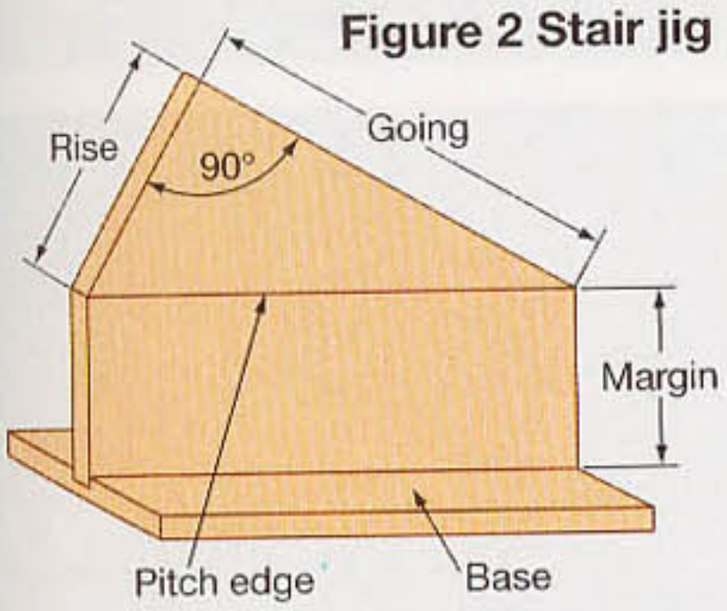
2 Open riser stairs can be made using the Trend Stair Jig B (Jig A is for closed risers). If this is your first stair build, it's well worth setting out the positions of the treads on scrap board to make sure the spacing will be equal. You can use a beam compass set to the pitch size to step off the required number of steps onto the strings. Alternatively, make an MDF jig.

Figure 1 Margin



TIP:
HOW TO MAKE A SETTING OUT JIG
To make the spacing ot the risers and tread easier, make up jig from two pieces of MDF screwed together at right-angles. This 'pitch board' gives the going and rising and is held against the string face and edge.

Figure 2 Stair jig



3 Set up the stair jig. The bar is adjustable to give the margin between the pitch line and the front of the string. In this case the margin is 30mm.

4 It's important to get the correct spacing between the cutter and the edge of the template. Make up a small timber spacer to match the cutter recommended in the Trend guide - for the open string it is 4mm.

5 The jig is supplied with a 24 OD guide bush and the recommended cutter is a 4/21 x 1/2TC. This has a cutting diameter of 16m. Tread thickness is 32mm.

6 Draw out the goings on the first string and clamp the stair jig at one end. Now you can start to machine the recesses for the treads and risers.

7 Unclamp the jig and move it along to the next step. Repeat this cutting action all the way along the string. The depth of cut is 12mm

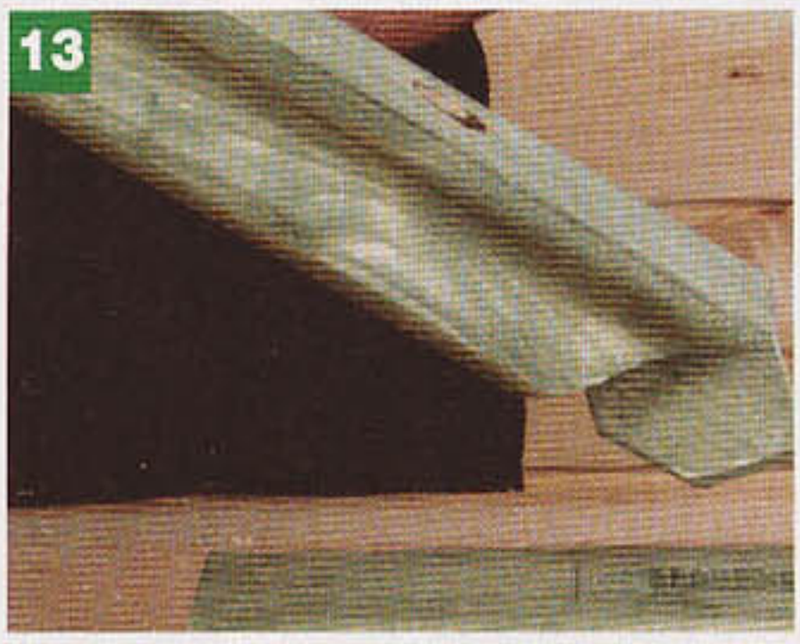
8 Repeat the process for the other string to produce a pair of 'handed' strings. Cut twin tenons to fit the newels at top and bottom.

TIP: You can make up a string jig to form the tenons on the string ends.

9 Rout out the newel post mortises to match the string tenons. A pair of guide fences to keep the base centred and stable as you cut.

10 Here the mortises are complete. The peg holes are drilled through to give extra strength.

11 Test fit the bottom of each string into its respective newel post. The newels have been grooved so that the bottom tread needn't be cut to fit around the post.



12 You can buy interior handrail mouldings from timber merchants but it's also possible to make up your own with a couple of Trend cutters, the 93/1 handrail cutter and the 46/42 thumb mould. The sizes of these cutters means the profiling MUST be carried out on a router table.

13 The ends of the handrail are trimmed with a handsaw to form a tenon that fits into the top of the newel.

14 Cut all the treads to the correct length and cut V-groove treads across the board with a router and guide fence. This provides some extra grip when the steps are used in winter.

15 The nosings at the front of each tread are rounded over to an 8mm radius. This is done with a 46/93 x 1/2 TC router cutter.

16 As the span of this stair was fairly wide, we added a front support batten under each tread. These were fixed with a pocket hole jig and stainless steel screws.

17 Use a Forstner bit to drill the through peg holes into the tenons of each string. These should be draw bored slightly off centre so that the peg draws the joint tight.

18 Hammer home the four pointed dowel pegs.

19 Shape the top of the string so that it sits flush to the wall surface. Trim off the top section so that doors can fully open. Paint any exposed timber with a preservative.

20 Place all the treads into the strings with plenty of waterproof glue and assemble with three screws per step. Check everything is square before leaving to dry.

21 Fit the stair and bottom newel assembly to the doorway. You will probably have to level the ground beneath. Dig out this area and use paving slabs set on a minimum of 50mm of sharp sand to from a stable base.

22 Next, the handrails can be slotted into the mortises at the top of the newels.

USEFUL INFORMATION

We featured a couple of interior staircase projects in our June 04 issue.

Trend
☎ 0800 487363
www.trendmachinery.co.uk

23 Fit the top ends of the newels to the cabin wall with stainless steel screws.

24 Routed out capping pieces made from preservative treated timber will protect the cut endgrain of the newel post tops from moisture.

25 Small spindles fill the gaps under the handrail. Paint any remaining sawn timbers with preservative.

Screwfix Trolley

Trolley climbs all types of stairs

Weighing in at 18kg, this is a heavyweight trolley among the ten or so on offer in the comprehensive Screwfix catalogue. The weight comes from the industrial strength tubular steel frame and multi-wheel pack. Assembly only takes a few seconds as the wheel sections are simply taped onto the fixed axle. A captive end seal locks them into place. Trolley width is 50cm so you can still squeeze it through a single door.

The idea of the three wheels is to provide a way of taking the trolley up and down steps with a heavy load - this trolley can take up to 250kg. The extra long foot piece is over 50cm long so you can lever up anything from computer boxes to sacks of ballast without much difficulty. The foot pivots upward to make the trolley more compact when stored.

We had no complaints about the rugged load lugging capacity of this trolley and the four timber steps to our workshop were scaled with several heavy loads of tools. The wheel assemblies did show signs of some side-to-side play that we wouldn't expect on a £100 plus trolley.

RATING	1 2 3 4 5
Value	
Performance	

USEFUL INFORMATION

RRP £119
Screwfix Direct
☎ 0500 414141


Foot tilts back for easy storage

Garden bench

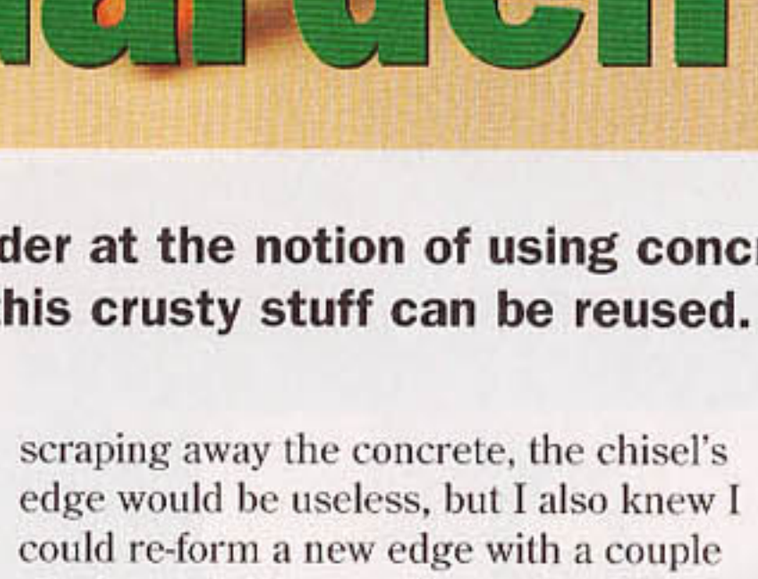
Many woodworkers would shudder at the notion of using concrete formers as material, but with a little planning even this crusty stuff can be reused. Kerry Pierce shows how

I would never consider using concrete forms except at that time when I'm getting ready to change out my planer blades. In the case of this particular project, I had acquired the forms months in advance of their use. I ordered replacement planer blades and waited. Finally, the old blades began to show nicks, and the feed rate, another measure of blade sharpness on my planer, began to slow. So one Saturday morning, I disconnected the power cord, reached up under the cutter head and brushed my fingers along the dull, rounded blade edges. Aha; it was time.

1 I set up a pair of sawhorses in the driveway and dragged out the form material. To scrape away the concrete scabs from the form material prior to planing, I used a perfectly good 1½in butt chisel. I knew that when I finished scraping away the concrete, the chisel's edge would be useless, but I also knew I could re-form a new edge with a couple of minutes' effort at the grinding wheel.

2 Once the surface material has been scraped away, take the forms into your workshop and lay them out to assess what sections can be used and what sections must be fed to your wood burner. Then cut out the best sections and run them, one pass each side, through your planer.

3 Once you have cut them to approximate length, you need to joint the edges in order to glue up the necessary panels. The problem is the thin layer of concrete that remains on one edge.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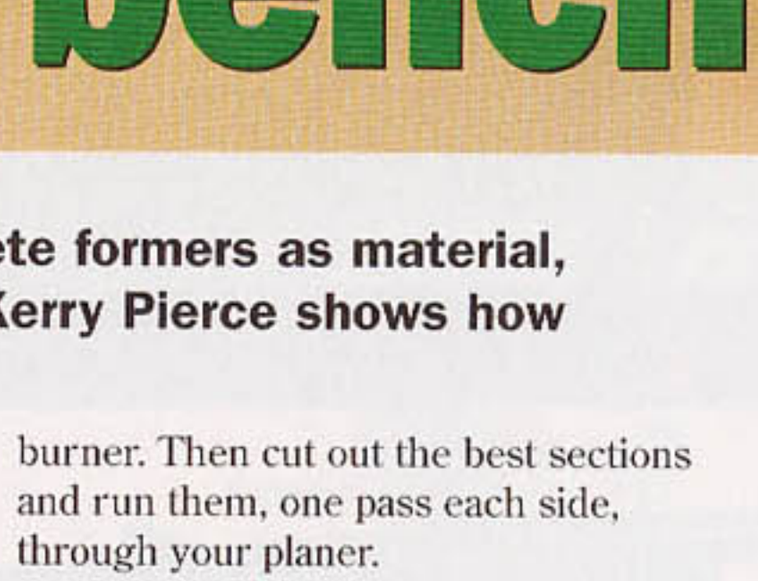
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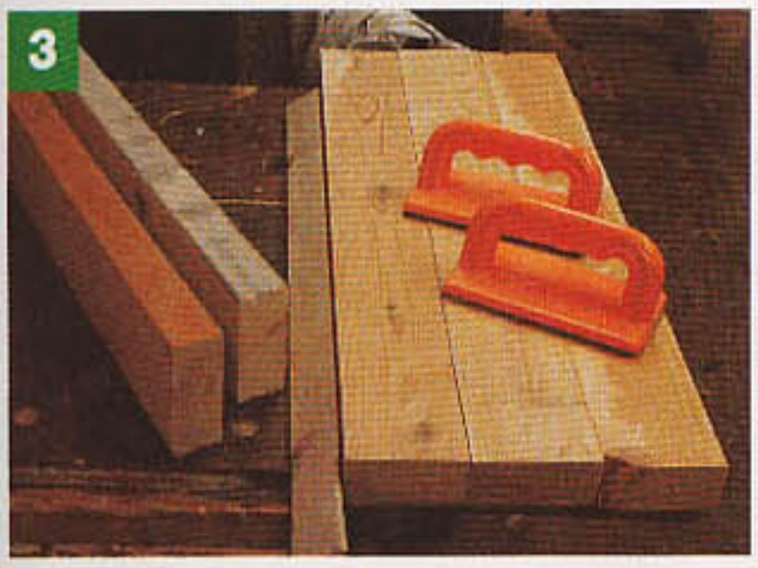
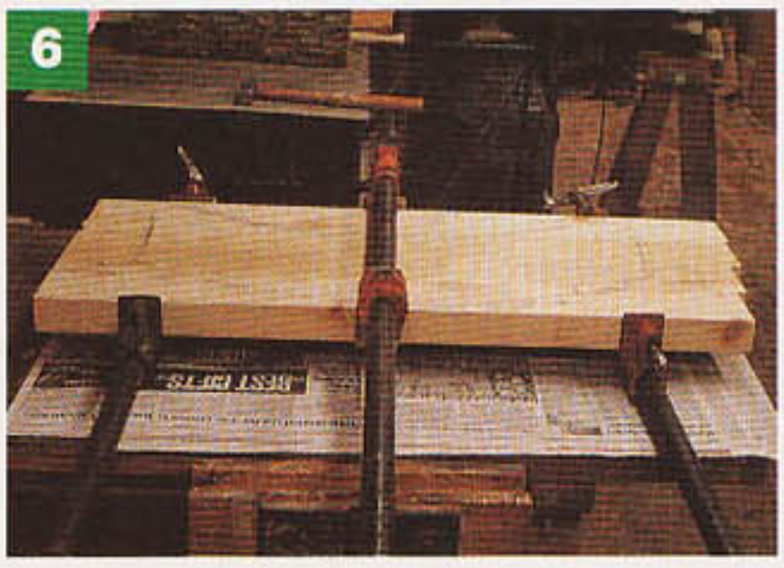




I noticed that the bottom edges of each piece of form material were clean (the visible edge on the right), so I ran that clean edge over my jointer, then fed the dirty edge (the visible edge second from the right) past my table saw blade with the fence 3⅛in from the blade. This ripped a ⅛in strip (centre) off the dirty edge. I then ran the newly sawn edge over the jointer.

4 Arrange the jointed lengths of form material on your bench in the combinations that will work best for the necessary panels. Sketch in the approximate final shapes so you can decide how best to work around the defects you see in your material.

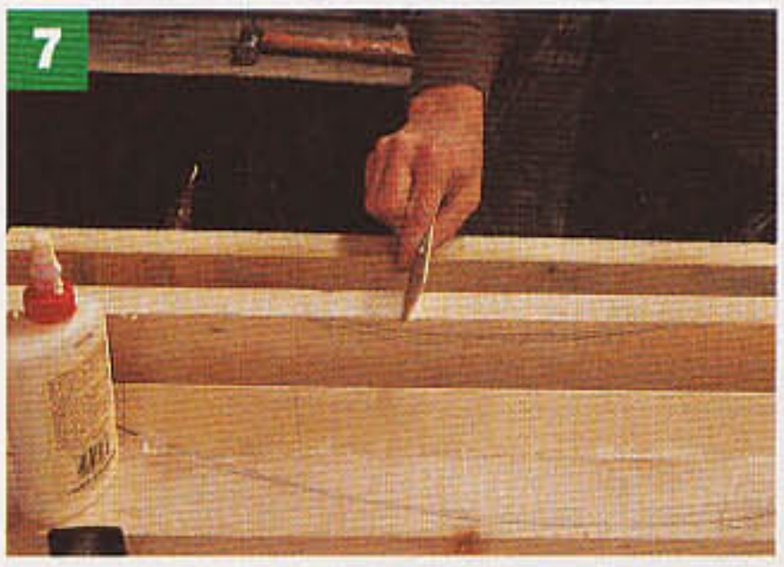
5 Before gluing up the panels, check each glue joint by stacking the unglued boards on edge. Then, with a light behind the stack, look for gaps between boards. If you see gaps, rejoint the edges and recheck.

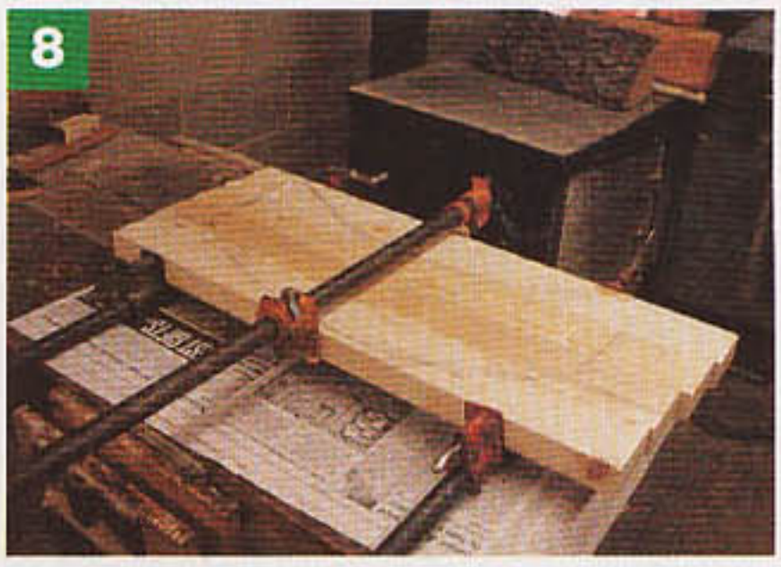
6 Before applying glue to the jointed edges, set up your clamps as shown and go through a dry run. This permits you to solve any unexpected problems before the glue dries. Notice that the clamps have been alternated, with the outside clamps on the bottom and the middle clamp on the top.

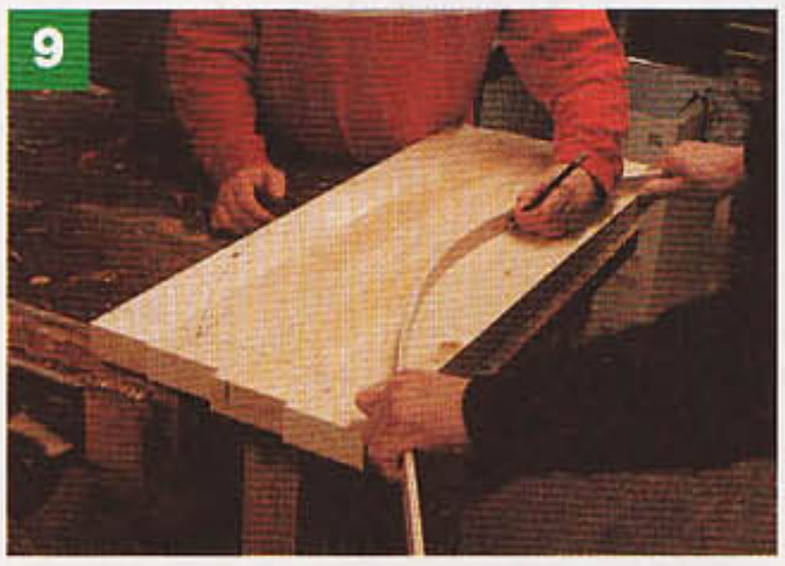
Once the clamps have been fully tightened on this dry assembly, sight along the end grain to make sure that the boards all lie in the same plane.

7 Release the clamp pressure and apply a thin film of glue to each jointed edge.

8 Apply pressure to the clamped parts until the joints have been brought together and glue squeezes out. Don't be shy about tightening the clamp screws.







Allow the clamped panels to sit overnight. After removing the panels from the clamps, run them through the planer until they reach the finished thickness.

9 The long arcs on the bench top can be created with the help of a thin (about ⅛in) strip of clear, straight-grained hardwood. Each of the two arcs will require a mark designating the middle and a mark at each end. Flex the hardwood strip until it properly meets these three marks.

The mark in the middle is just visible below the hardwood strip. The marks on the ends are hidden under my hands.

Hold the hardwood strip steady, not an easy task, while an assistant draws the arc.

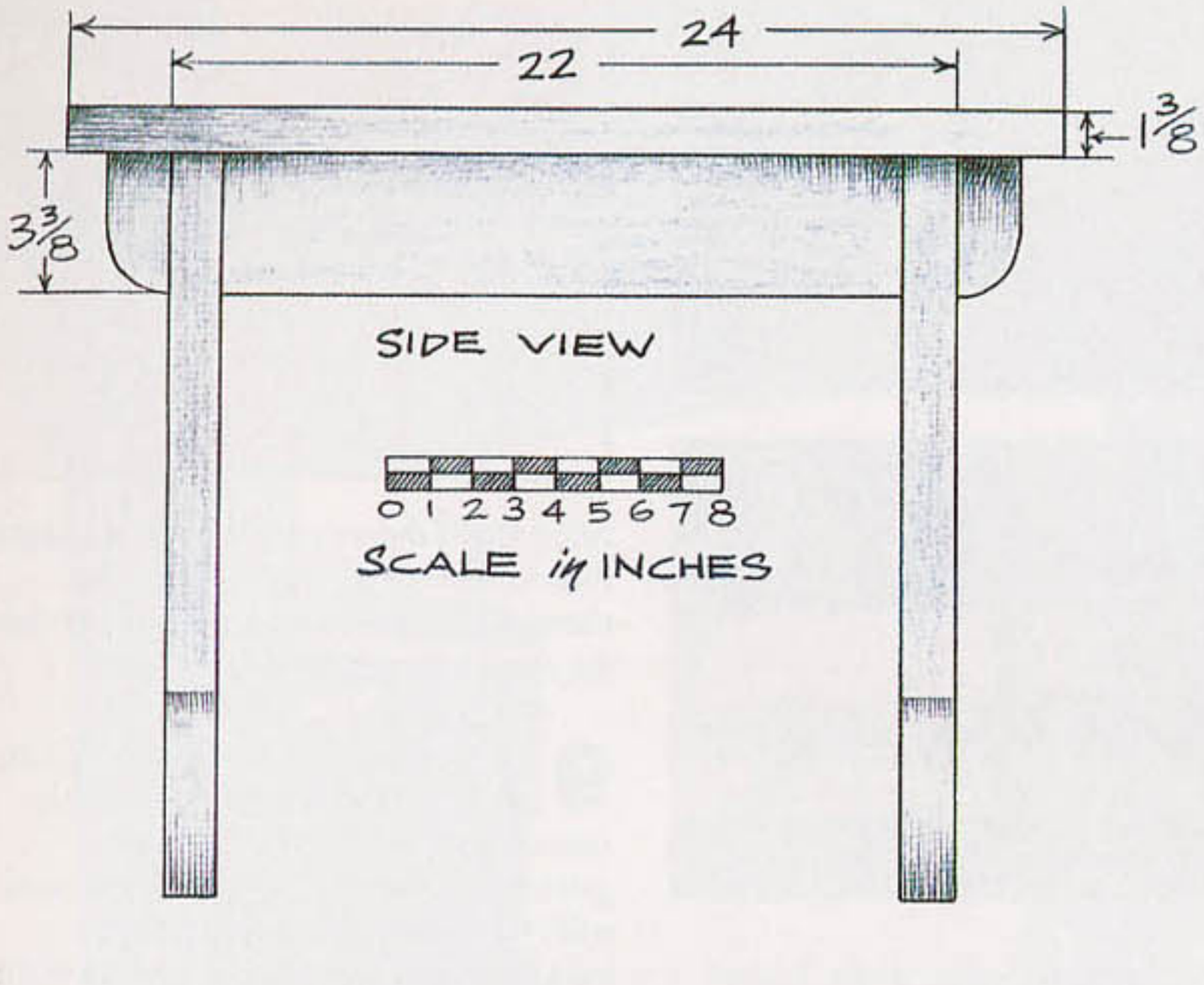
10 As much as possible, try to keep defects, like this nail hole, outside the limits of the part you're drawing.

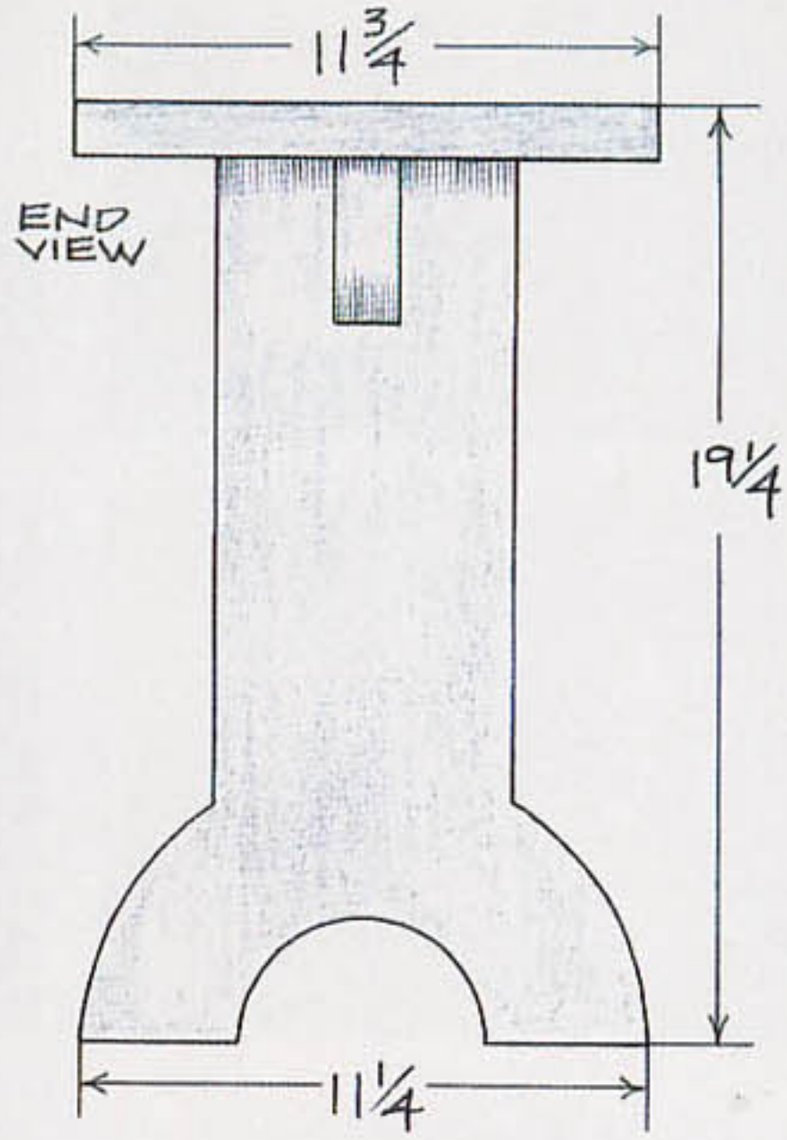
11 With a framing square, the blade of my rusty framing square is visible on the right, establish a baseline for the legs. Then draw the circles at the bases with a compass. Finally, again with the framing square, establish the sides of the finished end panels. Complete the sides with a straightedge.

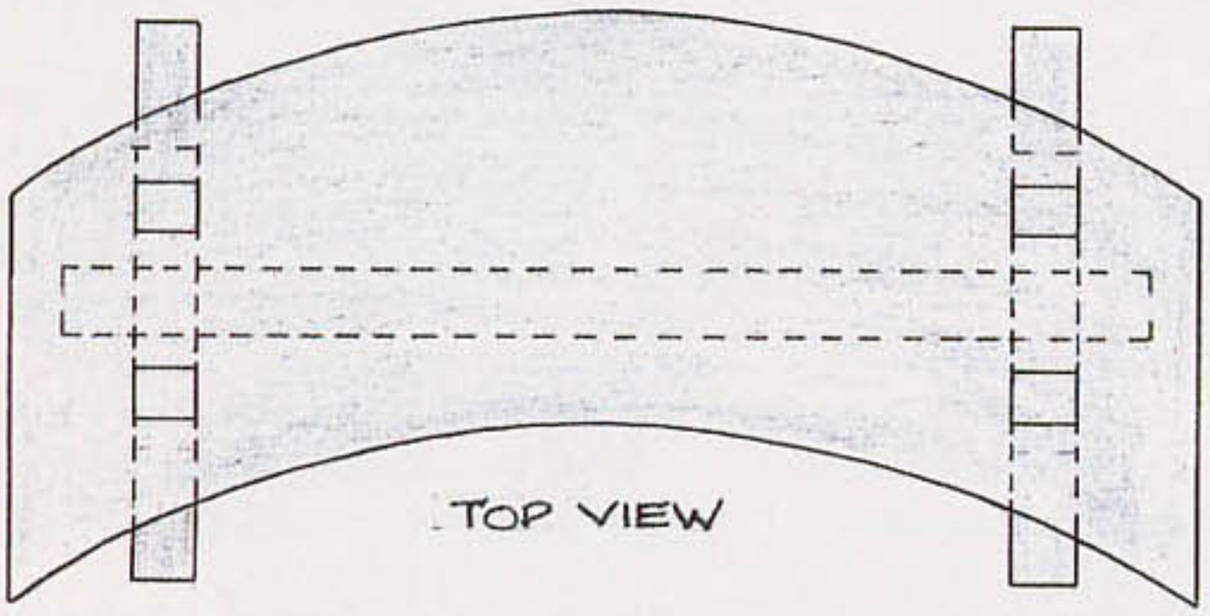
Joinery

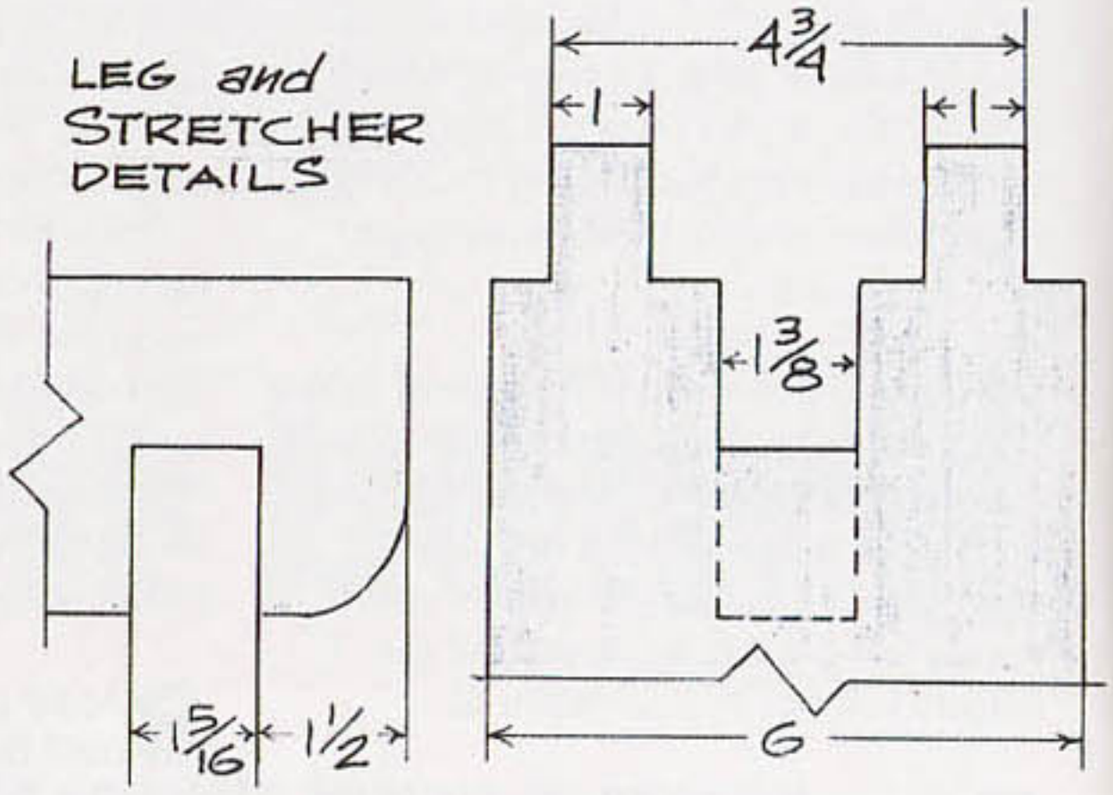
Through-Tenons and Cross Laps

The cross-lap joint has a long history in bench construction. John Kassay's The Book of Shaker Furniture contains drawings of two 19th century benches in which the stretchers and ends are joined in just this way. Although the joint doesn't offer much in the way of glue surface, it does provide a tightly interlocked union of parts.

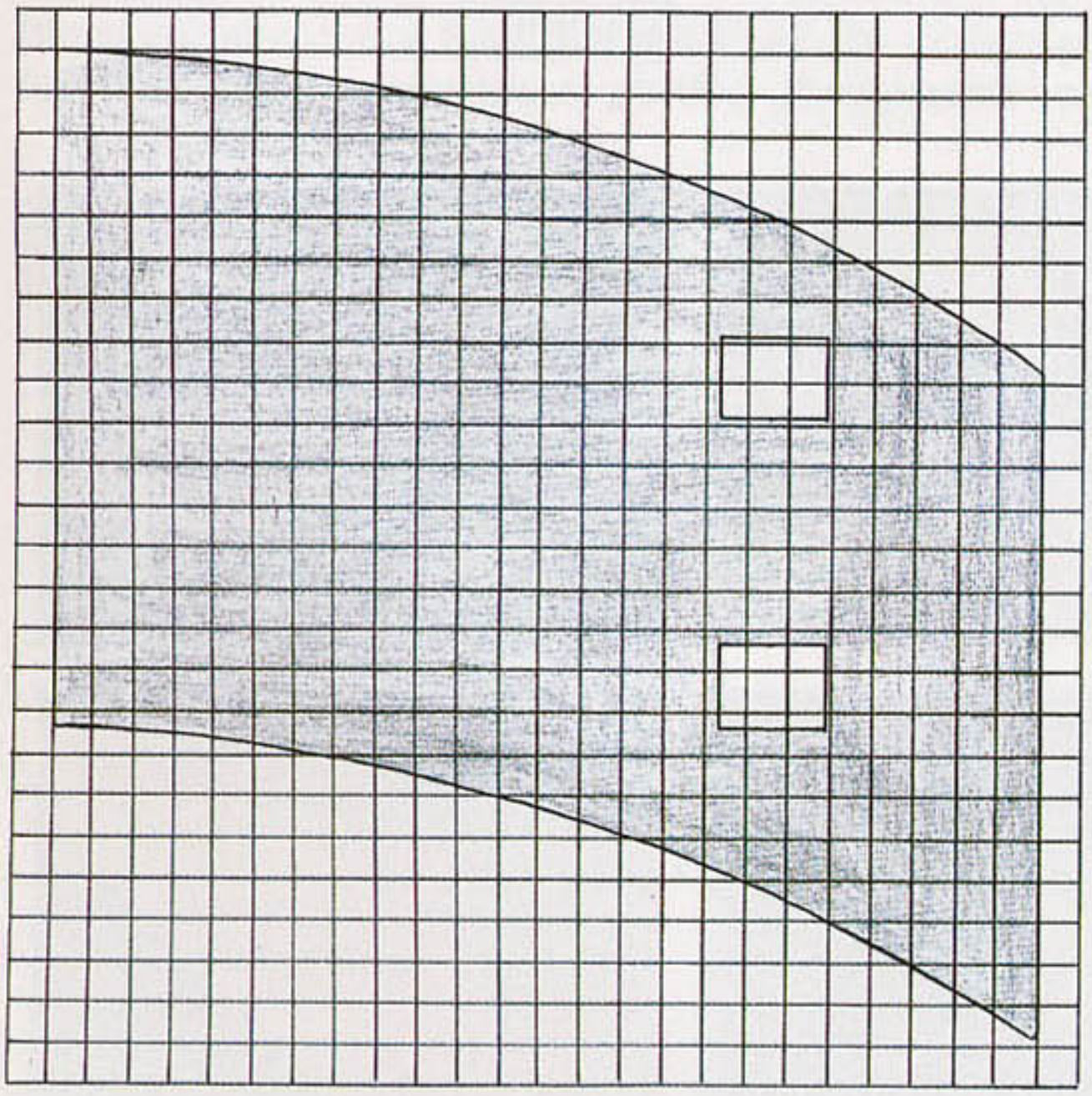


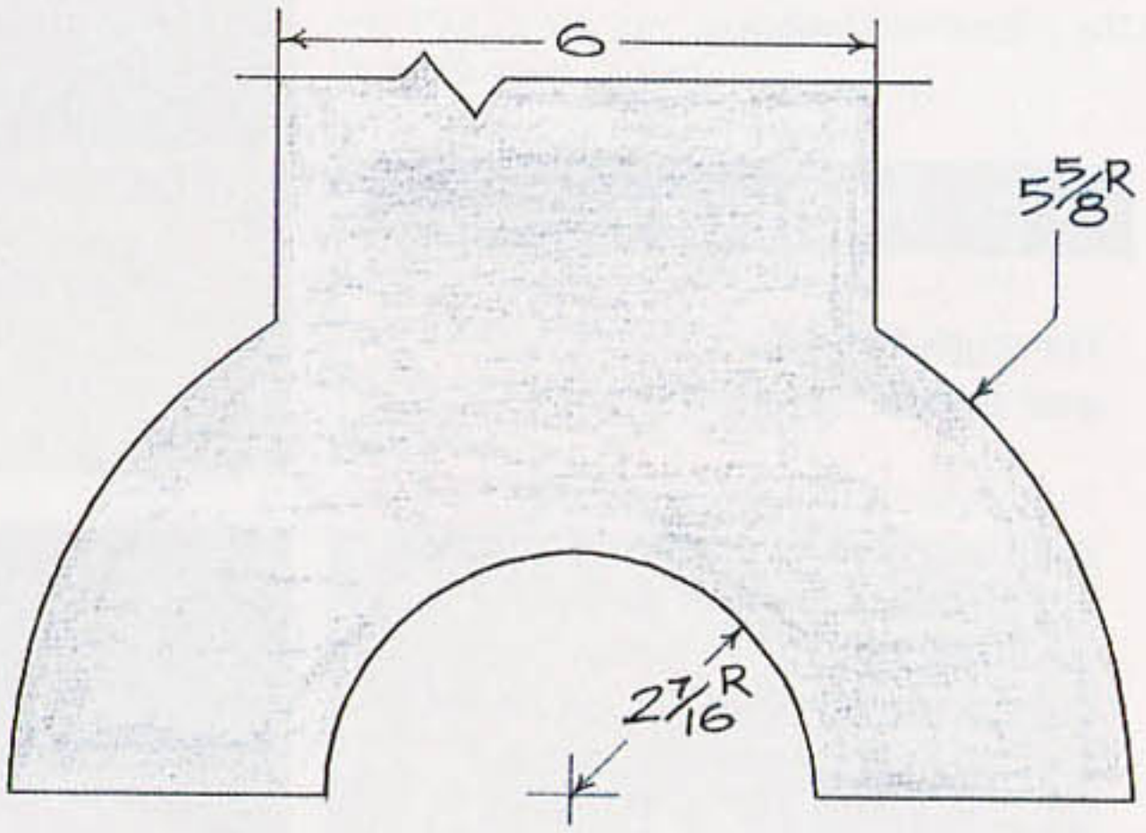


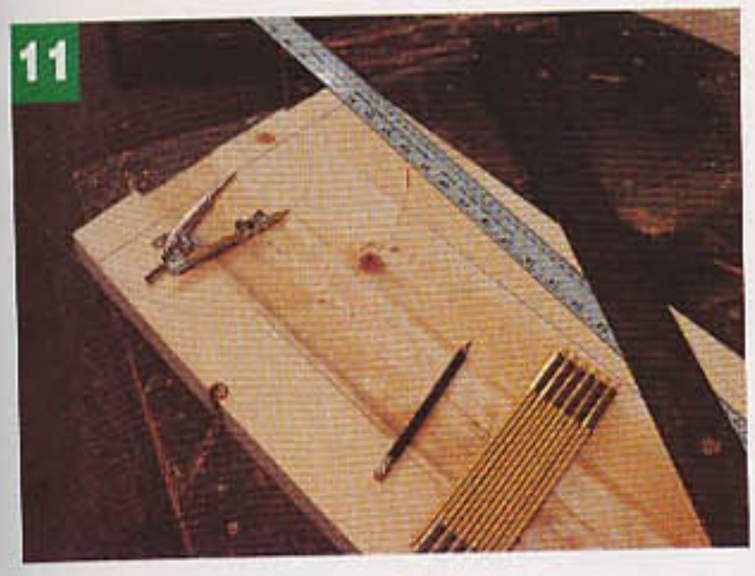


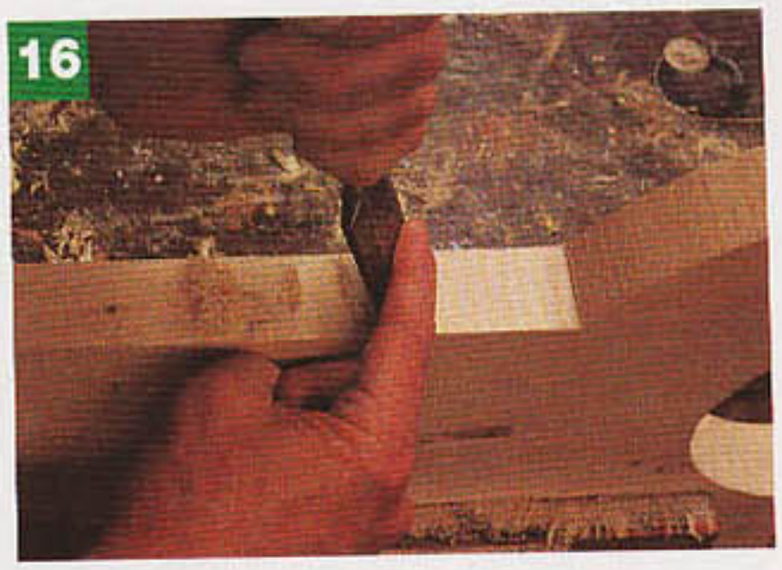


EACH GRID SQUARE REPRESENTS 1/2"









12 On your bandsaw, cut out the three primary pieces.

13 Place the bench top on the two legs and stand back to see how you feel about the look of the piece at this stage in the process, while it's still possible to modify the design (remember that it will stand a little taller here than in its finished form because you haven't yet cut the through-tenons and their mortises).

14 You can plane the outside edge of the bench top. The inside edge should be worked with a rasp.

15 Most of the length of the leg edges can be dressed with a block plane.

16 Use a wide butt chisel as a scraper to get the final inches of the leg edges.

17 Dress the band-sawn edges on the inside of the feet with a rasp.

18 The outside edges of the feet will also require a rasp.

19 On your band saw, cut out the stretcher profile, as well as the notches for the cross-lap joint. Then cut out the matching notches, and the through-tenons, at the top of each leg. Assemble these three parts to check the fit.

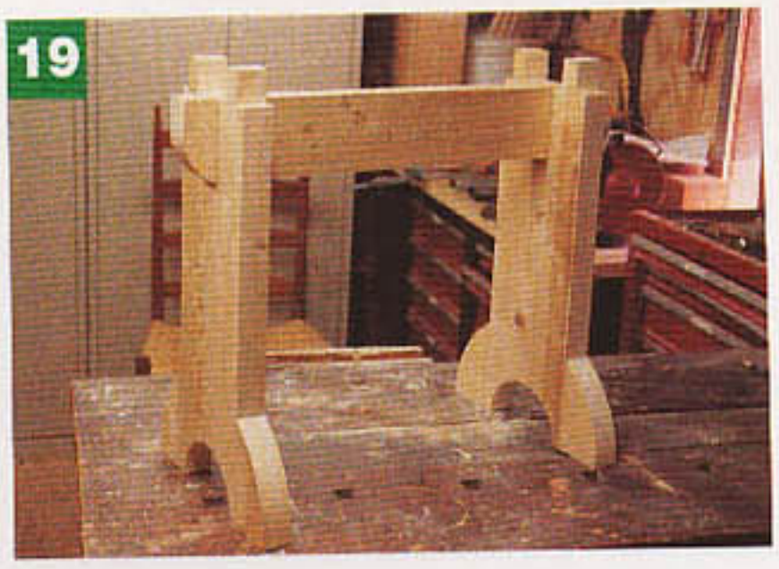
20 This close-up shows how the cross-lap joint should look when assembled. The top of the stretcher should meet the shoulder between the two through-tenons.

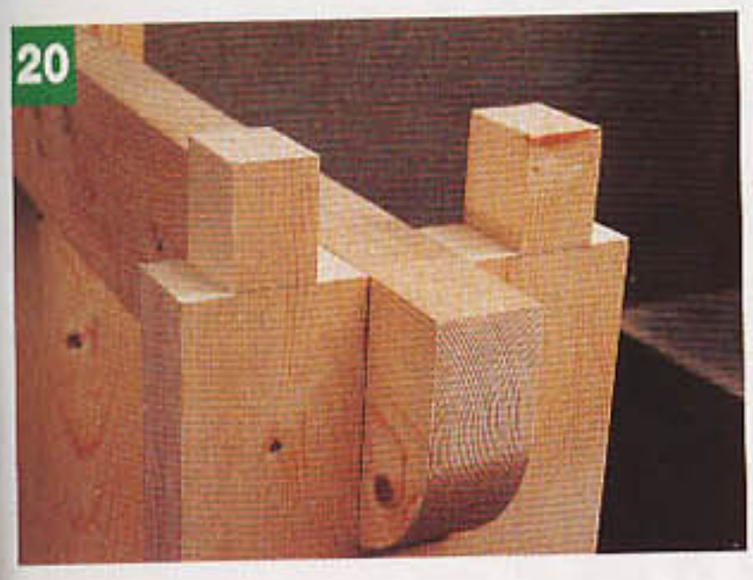
21 On the bench top, lay out the mortises for the through-tenons.

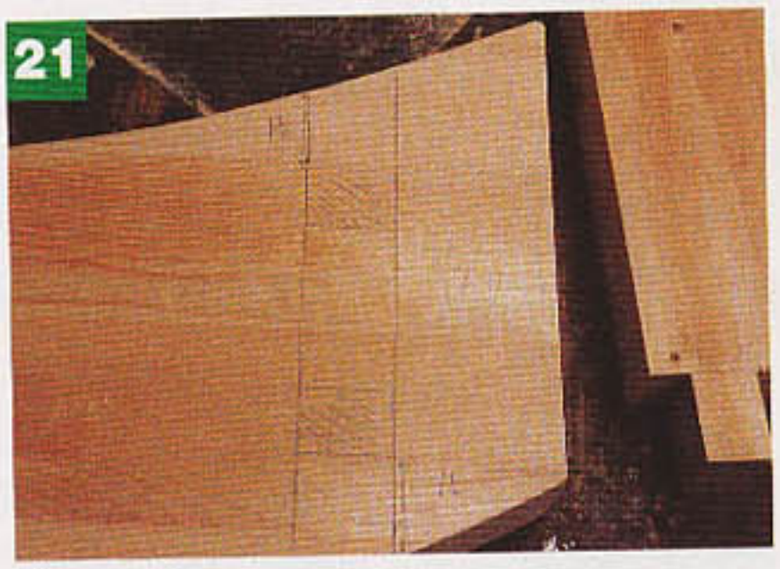
Bench cutting list

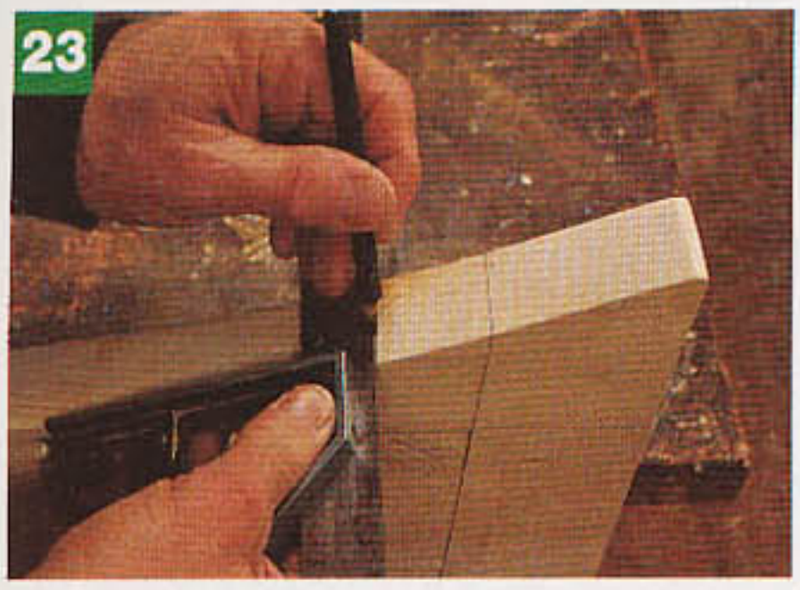
Inches (millimeters)

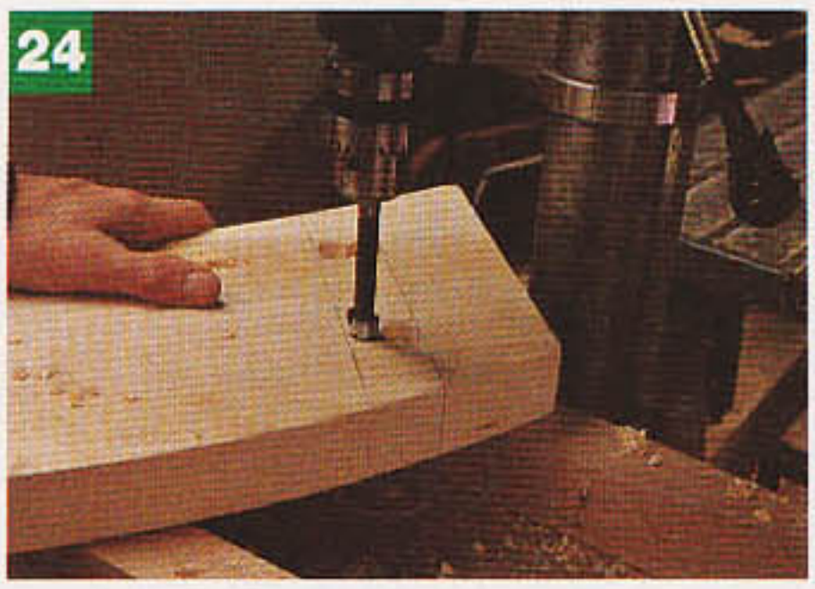
Qty	Part	Stock	T	W	L
1	top	pine 2x4	1⅜ (35)	11¾ (298)	24 (610)
1	stretcher	pine 2x4	1⅜ (35)	3⅜ (86)	22 (559)
2	legs	pine 2x4	1⁵⁄₁₆ (33)	11¼ (285)	19¼ (489)

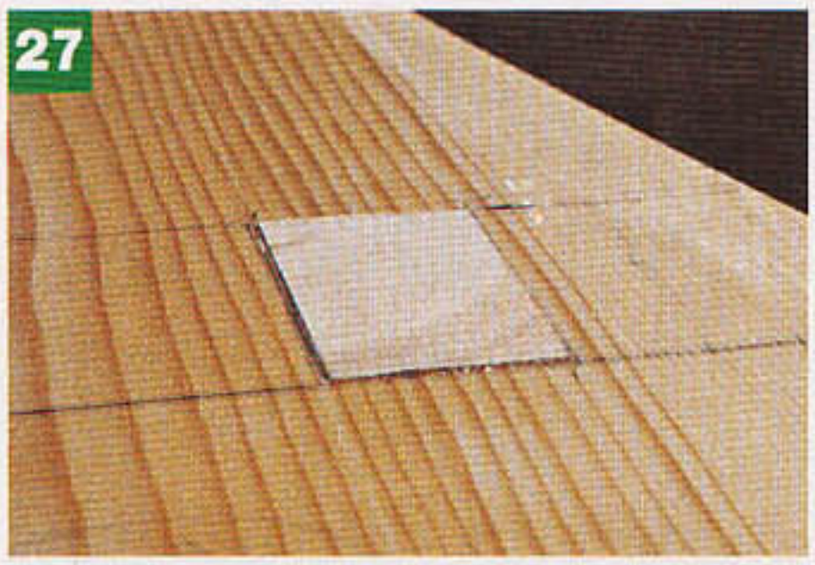












22 Score across the grain to delineate the mortise widths. These scorings will later provide you with locations in which your chisel can be registered.

23 Transfer the measurements from the top side of the bench top to the bottom side using a try square. Then mark the locations of the mortises on the bottom.

24 Remove the bulk of the waste in each mortise using your drill press (because my drill press table has a bolt sticking up to which I fasten my jig for cutting chair mortises, I had to raise the bench top on 2 x 2s).

25 With the tip of your paring chisel in the scorings you made earlier, square up the end-grain walls of each mortise.

26 The side-grain walls are much easier to cut. Skewing your chisel at an angle will make it less likely to dig in at any one point.

27 This is how the finished through-tenon should look. Notice that it fits tightly against all sides of the mortise. Notice also that it sticks up slightly above the level of the surrounding material. That excess length is necessary so that it can be planed or rasped level with the surrounding material.

28 Before you start your glue-up, dry assemble the bench to make sure that it comes together properly.

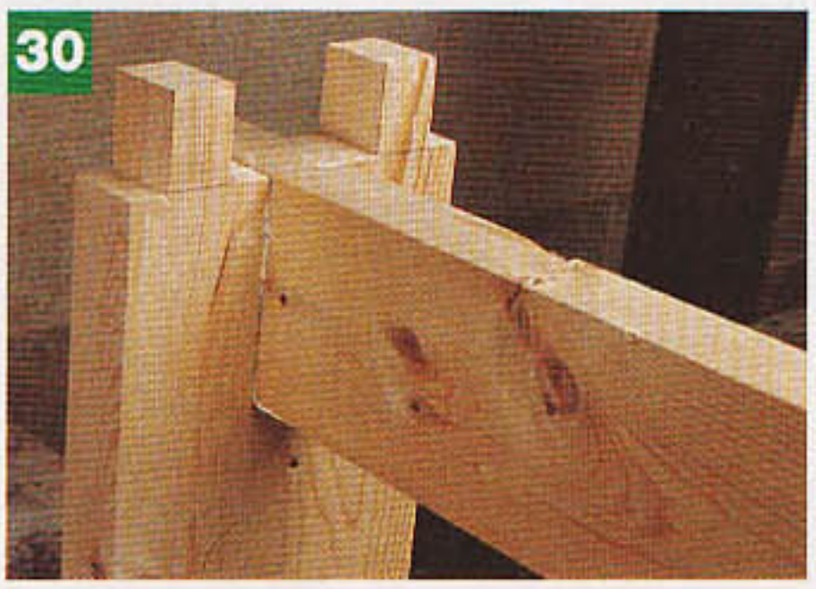
29 Sand all four pieces.

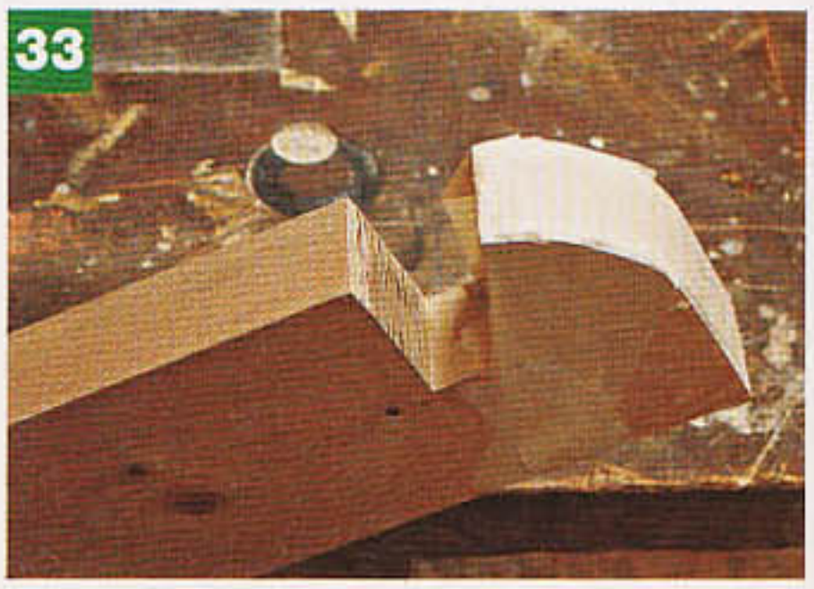
30 Apply glue to the mating surfaces of the cross-lap joints and assemble the stretcher and the two legs. Then apply glue to the top of the stretcher, as well as the mating surfaces of the mortises and the through-tenons. Install the bench top.

31 Mix up a paste of machine-sanding dust and glue. Then apply this paste to gaps around knots, planer tear-out and nail holes. After the paste dries, sand it flat. A second application may be necessary.

32 If the material you've chosen for this project is clean enough, it could be given a natural finish. However, the concrete-form material I used had so many defects, I decided to spray-paint it green. Accidents do happen. When I was disassembling a dry fit, I popped the tip off of one end of my stretcher. I applied glue to both sides of the split.

33 Then I brought the parts together, holding them in place with masking tape. In an hour I removed the tape and went back to work. The bench would be ideal for a garden or patio and only cost a few pounds to make. You could easily make a larger version with a third central leg.





Double or triple?

Following on from the bed featured last month, **Eric Taylor**'s bedroom suite series continues with these fitted wardrobes

This was my first foray into veneered MDF, and I was quite surprised by the weight of an 8x4ft sheet. I altered my design to reduce the weight as much as possible. The design uses 19mm oak veneered MDF for the carcases, 13mm oak veneered MDF for the drawer sides and backs, and 6mm maple veneered ply for the drawer bottoms and cabinet backs. All drawer fronts, doors and tops are solid oak and all visible faces and bottoms of the MDF are lipped with solid oak. Carcase joints throughout are made using biscuits. I cheated with the door knobs, these were bought ready lacquered from Screwfix.

In total I made two bedside cabinets, a seven drawer chest, a five drawer chest, a dressing table shaped to fit our bay window and these two wardrobes, one two door and one triple.

Oak-veneered boards make this a very affordable storage option

Base units

The base units are made up in exactly the same as the drawer units, which will be featured in detail next month, except these have a solid MDF top and not top rails. Also they have an overhanging beading to mask the joint between the base and robe. As the robes are deeper than the drawer units, I used 450mm long runners for the drawers, instead of 400mm.

Design

My wife wanted a triple wardrobe, and that was probably just to house her shoe collection. I would be able to make do with a normal double wardrobe. As this was going to fit between a wall and a chimney breast, my maximum width was already determined and was still wider than the 1950's bow front walnut-veneered wardrobe that was being replaced.

Because of the size of the wardrobes, and the weight of the MDF, I decided to split them with a base unit underneath. The triple wardrobe needed extra length for long coats or dresses. My old C&A duffel coat was my longest piece, but posed no problems.

With the triple robe needing a mid-door hinging and closing stile, I decided on a face frame with strengthening battens behind and a shelf running two thirds of the width which would give support to the mid-stiles. The remaining third could be used for longer dresses.

Knowing that the upper part of the robes would have to be 'knock down' to get them up, or heaven forbid, back down the stairs, I bought some alloy cam lock knock down fittings. After trying these I decided against using them, settling instead for loose biscuits and screwed battens. I had a rough idea of maximum height and height of hanging rail that I wanted, so allowing for drop, this gave me the heights for the drawer units below. After many sketches and measuring, I had my working drawings and made a start.

Wardrobe tops

As the wardrobes are finished with a solid oak face frame, the front of the MDF panels are left without lipping. The side panels are rebated at the rear, to take the ply backs. This is cut with a

bearing-guided rebate cutter in the router. The top and bottom panels are dimensioned flush with the rebate, and the four pieces are cut to width, allowing for the depth of the face frame.

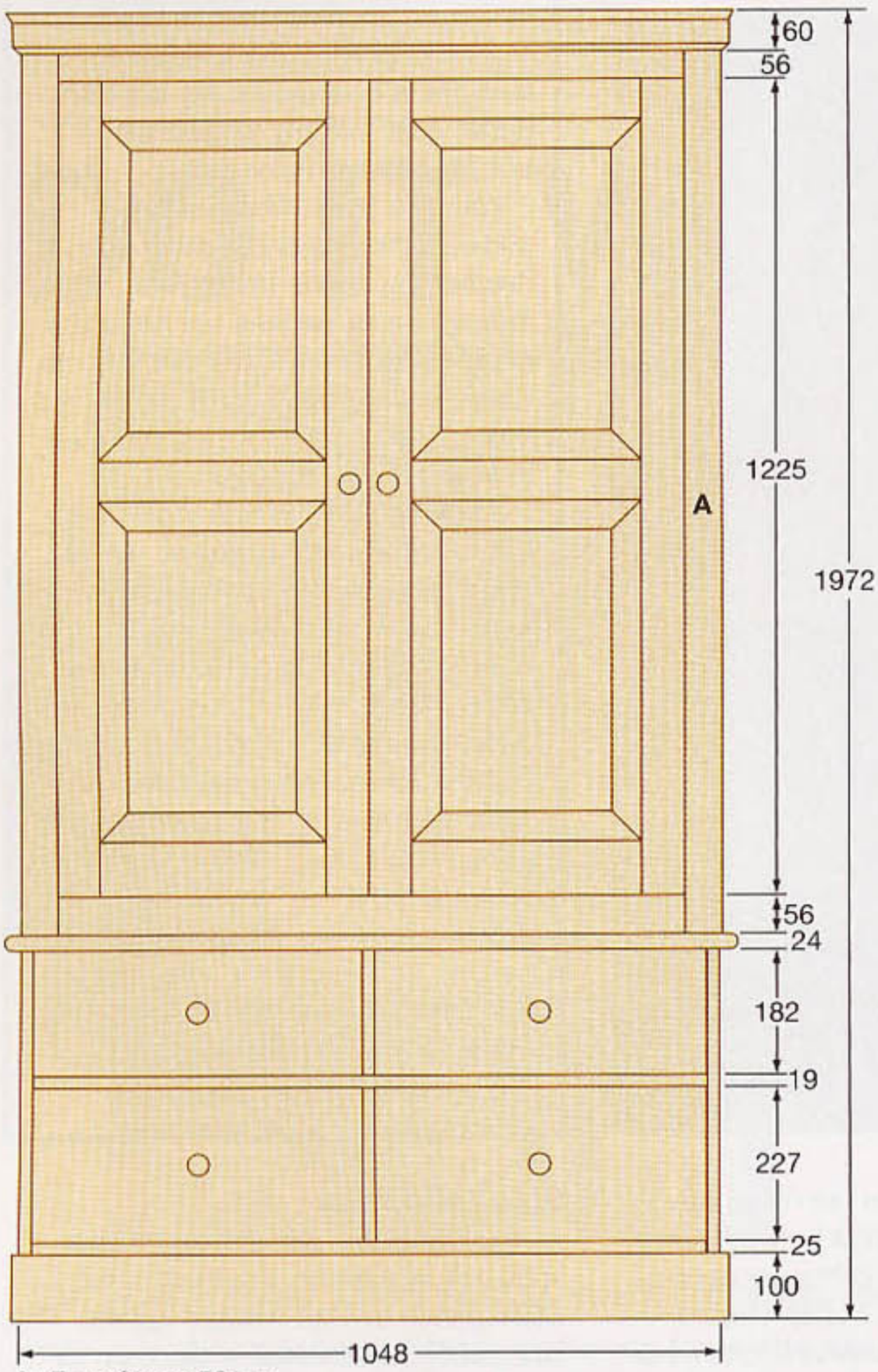
T-cut the straight edges on the sawbench, and then rip to width against the fence. A router and straight edge could also be used for this. The base panel sits on battens to bring it just below the level of the face frame, these battens are also used to screw into from the drawer unit when assembling. Four biscuit slots are marked and cut into the ends of each panel. These are fitted dry to aid location.

The oak battens holding the panels together are machined up to 20 x 20mm and cut to length leaving a few millimetres clearance. The battens are marked for screw position and clearance holes drilled and countersunk. These battens are marked for position and screwed into place on each panel.

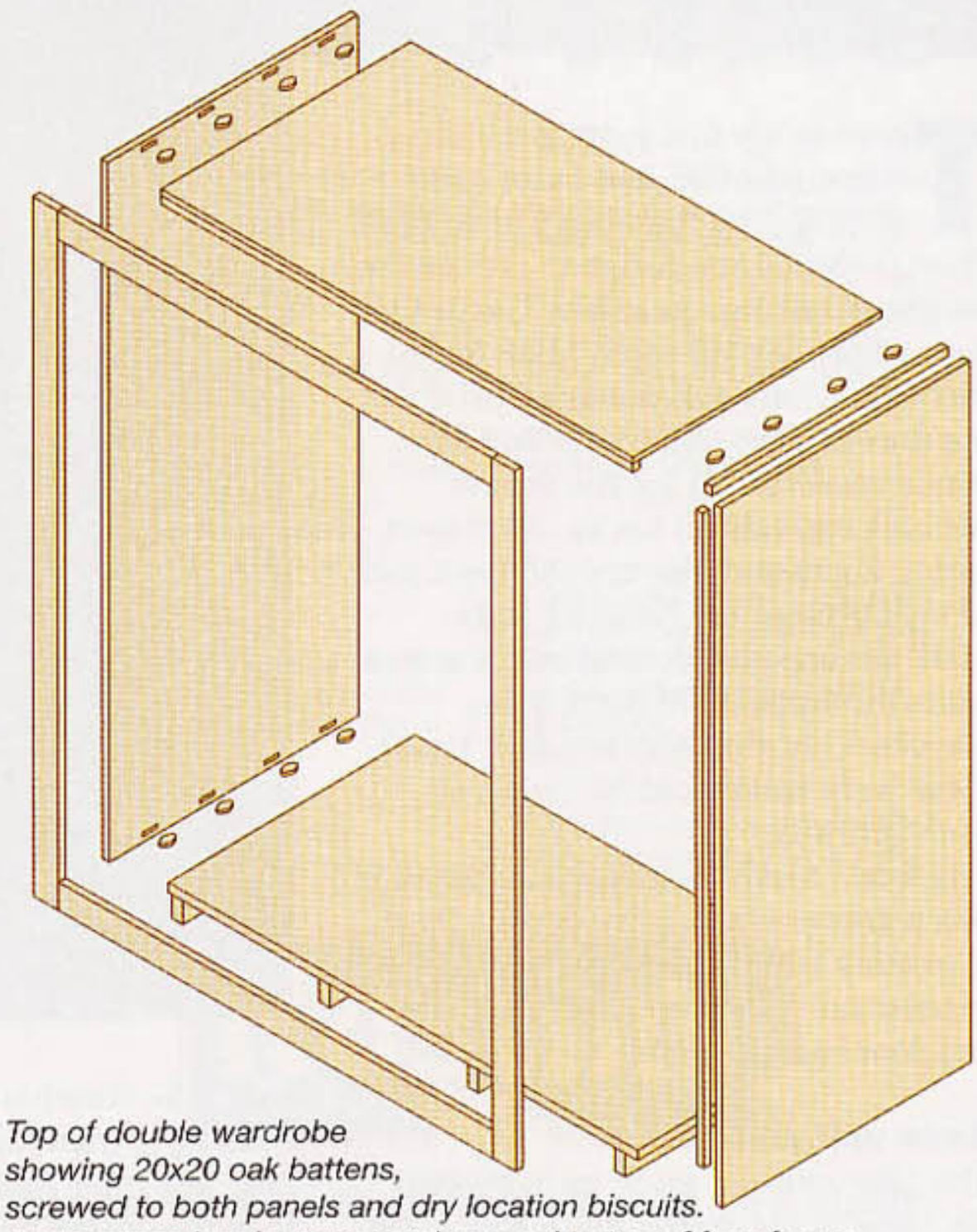
Once all the battens are in place, with the aid of screws, biscuits, and hopefully another pair of hands, the panels can be assembled and lifted into position on the base unit. The carcase is set up square and measurements checked for the face frame. The double robe is simply a four piece frame, whereas the triple robe has an extra two vertical stiles.

The joints used are mortise and tenon cut centrally on the stock. When glued, the frame is offered up and screwed into place on the front battens. Once in position,

Figure 1 Double wardrobe *All measurements in millimetres*



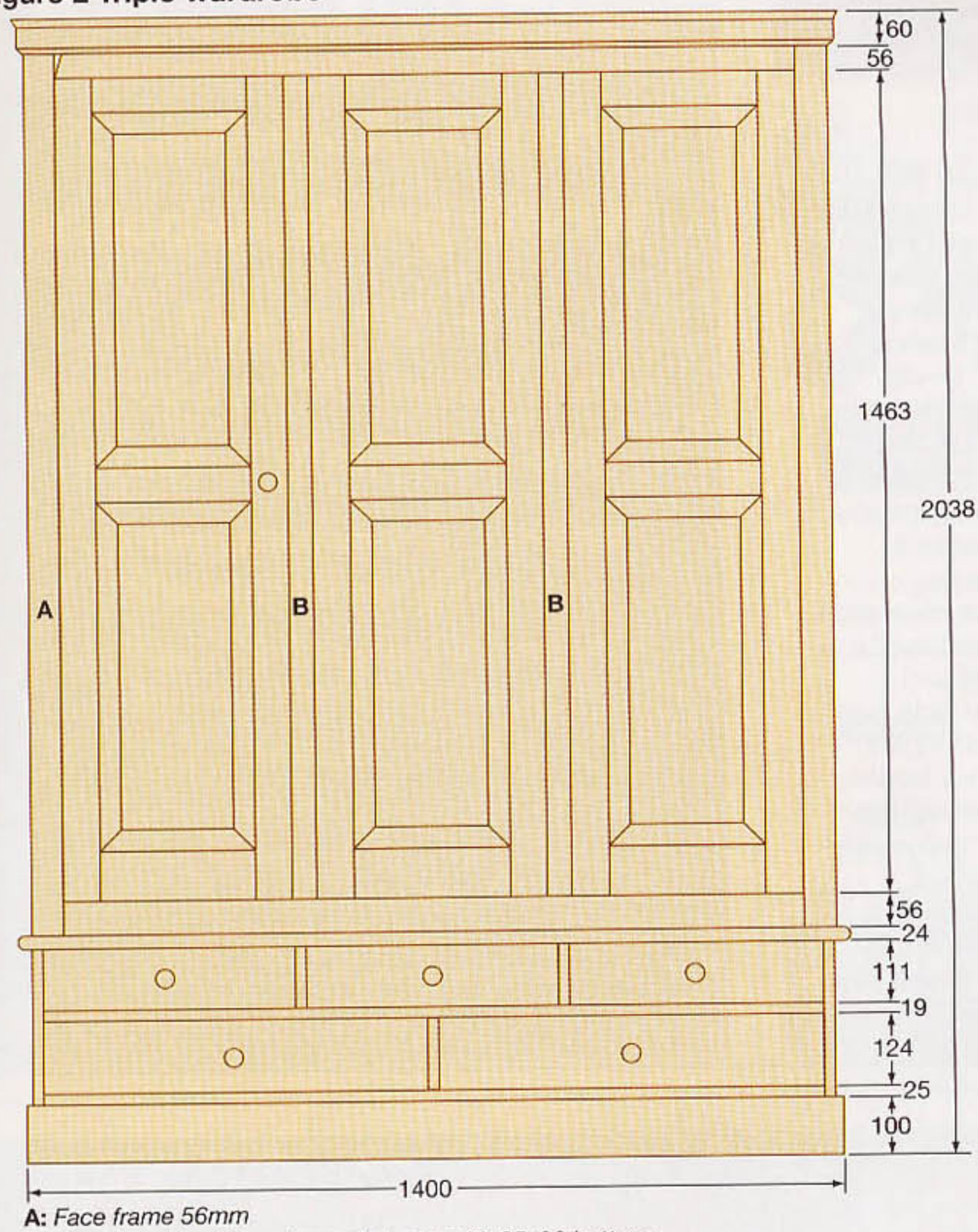
A: *Face frame 56mm*



Top of double wardrobe showing 20x20 oak battens, screwed to both panels and dry location biscuits. Bottom panel on battens to raise panel to top of face frame. Ply back screwed to rebate in panels – most battens omitted for clarity.

Figure 2 Triple wardrobe

All measurements in millimetres



A: *Face frame 56mm*
B: *Hanging stiles 42mm braced at rear with 35x20 battens*

the frame can be marked with a pencil, and planed to a flush fit.

With the fitting of the face frame the piece should now feel quite sturdy. The ply back can now be cut, this is screwed in place. On the triple robe the back is in two pieces, fitted between a cross rail, which is loose jointed to the side battens. The top cornice is made up from two pieces of lipped and moulded MDF screwed and glued together. This is then mitred at the corners, and glued together with biscuits, and fitted in place with screws.

The larger robe now has a shelf unit made up from 13mm lipped MDF and secured to the front frame and back with thin battens and screws. Two strengthening battens are machined up to 35 x 20mm, shaped, and screwed to the back of the mid-stiles.

Doors and panels

The doors and panels are made up from solid timber. Measurements are taken, allowing a few extra millimetres for planing back when fitting. The stock for the frames is machined to 67 x 19mm and the bottom rails finishing slightly wider at 86mm. At the same time, plane up some softwood to the same dimensions, for use as test pieces. I used a router bit set for door making from the Jesada range. With the bits in the router table, run the test pieces first, and once you've achieved a good setting for the joints, proceed with the good parts.

Material for the panels is selected, these are matched for figure and grain and jointed to the required width. Alternate the end grain growth rings, to help prevent any future cupping. As the panels aren't particularly wide this shouldn't be too much of a problem. The panels are dimensioned to size, allowing a couple of millimetres less on each face for movement. Then they are fielded on the spindle moulder, to give a neat fit in the same groove.

The top panels of each door have a tulip design carved into them. The two wardrobes have a slightly different pattern but match those carved into the bed head and footboard (see *Woodworker* September 2004). The carving is quite simple and is achieved with various No.39 vee tools and No.3 and No.5 carving chisels.

The panels are cleaned up and finished with two coats of Finpol before assembly (if the panels should move in the frame you won't want any untreated wood on show). The frames, with their panels in place, are glued up and checked for square. When set, the joints are cleaned up with a stroke or two of a smoothing plane, and then sanded to finish.

Rightly or wrongly, and in keeping with the quickness of construction, I used flush finialled hinges to hang the doors. I stood each door on a piece of thick card for clearance, and marked and planed them to fit. I used a brass ball catch top and bottom on each door, fitting the ball to the frame and

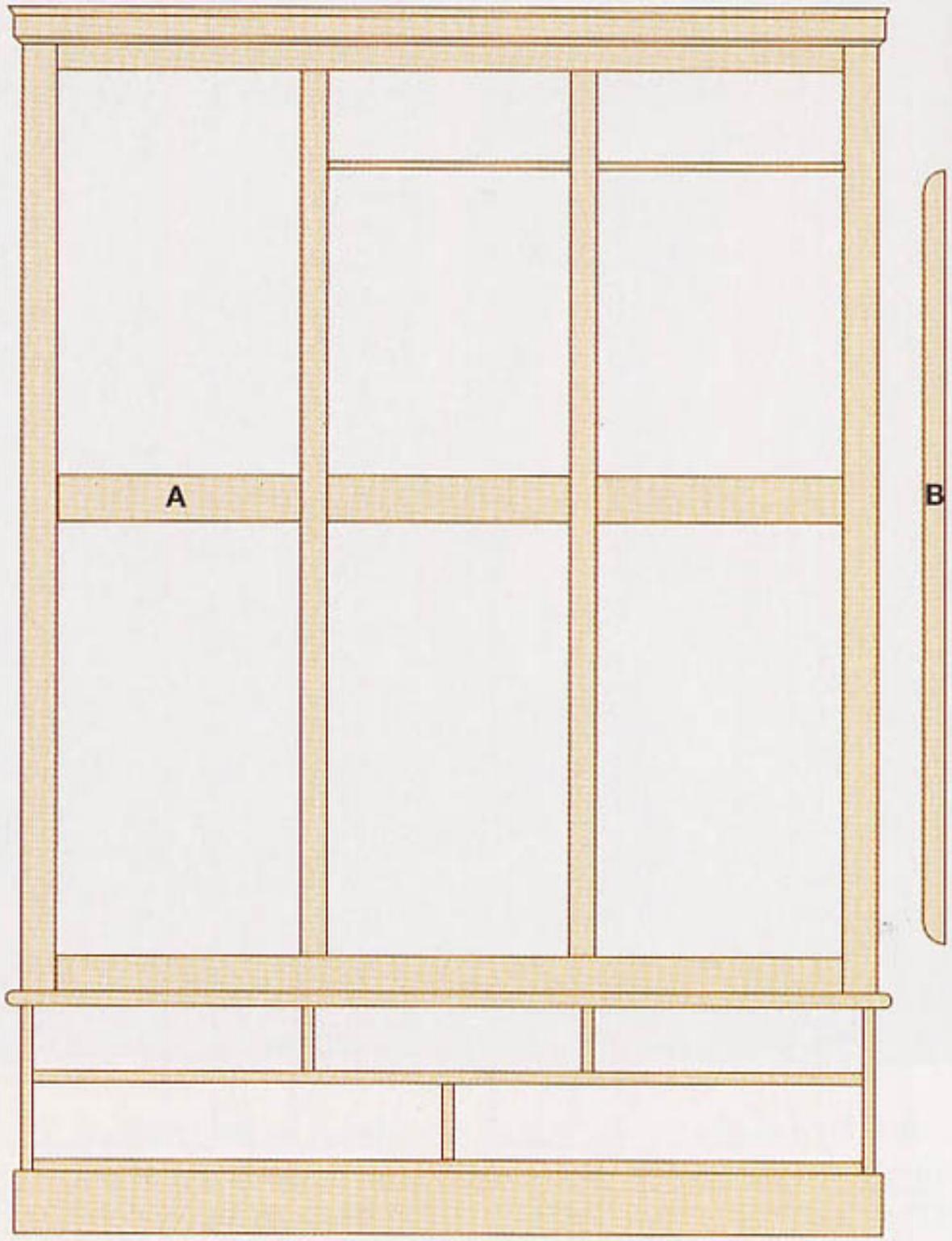
sinking the plate in the door. I think this method looks neater, rather than having the catch plate on view. A couple of wooden doorstops are made and fitted in place and then fit the doorknobs.

Final finish

The whole assembly is now dismantled, checking each piece is marked for correct position. All parts are sanded to 180 grit, the dust cleaned off and removed with a tack rag. All inside faces are finished with three coats of acrylic varnish, denibbing in-between coats. The doors, drawer fronts, and all exterior faces of the carcase are finished with five coats of Finpol special French Polish. De-nib between coats with flour paper. The final coat is cut back with wax polish, applied with a Scotchbrite pad. A final coat of wax is applied with a rag, and buffed up to a sheen. The pieces are all carted upstairs to the bedroom and re-assembled in-situ. It's a good idea to fit four castors to each base unit to help with movement of the piece.

The doorknobs are fitted with a touch of Superglue, and the grain lined up. The rails I used were obtained locally. For my wardrobe, I tried in vain to find a tie rail, and ended up buying a piece of 7 x 2.5mm flat brass strip from a DIY superstore. This was bent into shape, drilled, and screwed in place to the back of the doors. For my modest shoe collection, I made a shoe rack to fit the bottom of my wardrobe. I couldn't come up with a design for a shoe rail for my wife's wardrobe, I just couldn't fit 32 pairs of assorted footwear anywhere into the equation. I could have fitted them into a black bin bag, but alas, lacked the necessary courage. Extra storage space was achieved with wicker boxes on top of the wardrobes.

Figure 3 Triple wardrobe



A: *Rear strengthening rail: Loose tennoned to rear battens*
B: *Support rails for hanging stiles 35x20*

Table lamp

Watch Alan make this project on the Creative Craft Channel, 695 Digital & Satellite - 29th August (12 4th September (10am) and 5th September (4pm)

This project is a great turning exercise that will throw plenty of light on the subject, and it's been featured on TV!

By **Alan Holtham**

This lamp project is a very useful exercise in woodturning for several reasons. Obviously it ends up with a very pleasing finished object, but in achieving this it takes you through the whole range of both basic spindle turning and faceplate work. It also teaches you something about making two pieces fit together accurately, as well as introducing the simple but impressive technique of long hole boring. In these days of returning interest in all things wooden in the home, what can be more satisfying than sitting down to relax in the light cast by your very own hand turned lamp.

"What can be more satisfying than sitting down to relax in the light cast by your very own hand turned lamp"

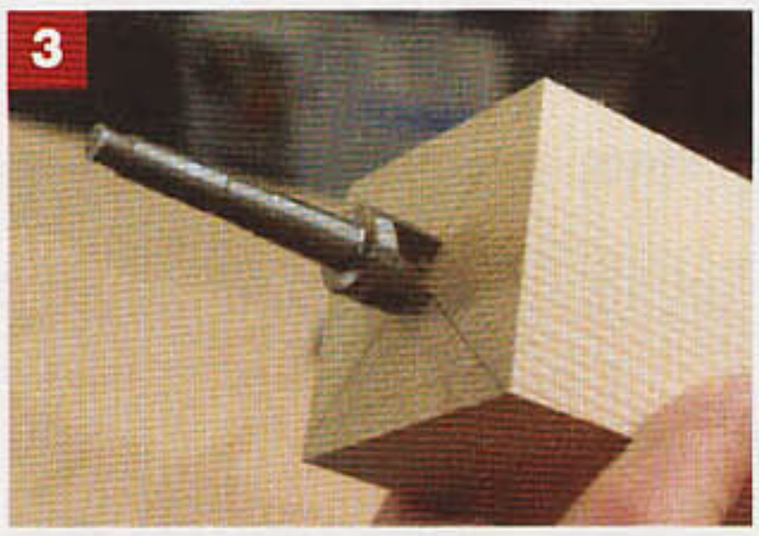
Turning the stem

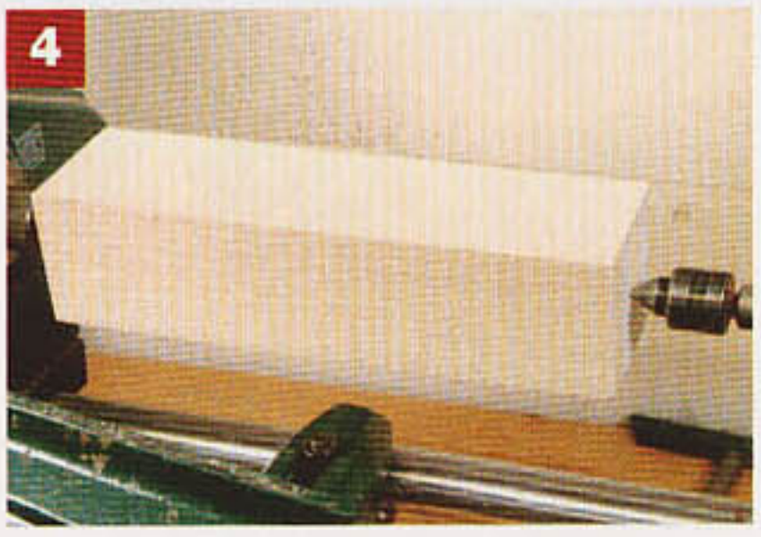
You will only need two pieces of timber, a 2½in square, 12in long, and a 2½in thick disk 6in in diameter, **Pic 1**. Any suitable hardwood will do but I settled on ash, as it is relatively easy to turn and often has some very decorative grain figuring.

Start by making the lamp stem, marking out the centres on the end of the blank by drawing diagonals from corner to corner. Knock the drive centre into one end, **Pic 2**, making sure that it is well in, as you will need a very positive drive during the boring process. On relatively soft timber like this ash, a good indicator for whether the centre is in far enough is that it should stay in place when you tip the blank on its side, **Pic 3**. However you will not be able to do this with harder timbers.

Set up the blank in the lathe holding it between the drive centres, **Pic 4**, and adjust the tool rest so that it is clear of the spinning corners, **Pic 5**. Set the speed at about 1000rpm **(Pic 6)** and then use the three quarter-inch roughing gouge to start removing the corners, **Pic 7**. Make sure you work off the end of the blank, never onto it, as this carries the risk of breaking off a long sliver of wood which may fly up at you.

Keep working from left to right until you reach about halfway down the blank, **Pic 8**, and then reposition the tool rest to complete the roughing process by working off the left-hand end, **Pic 9**. Use your finger to run along the tool rest as a guide, to try and end up with a nice parallel surface to the cylinder, **Pic 10**.





TIP: Now is the best time to bore through the stem to take the flex. Never try and bore it after you have turned the profile, as things may not go as planned and you will have wasted all the work in turning the spindle if the boring does go wrong. Also, you are guaranteed concentricity if you bore first and then re-centre on this hole.

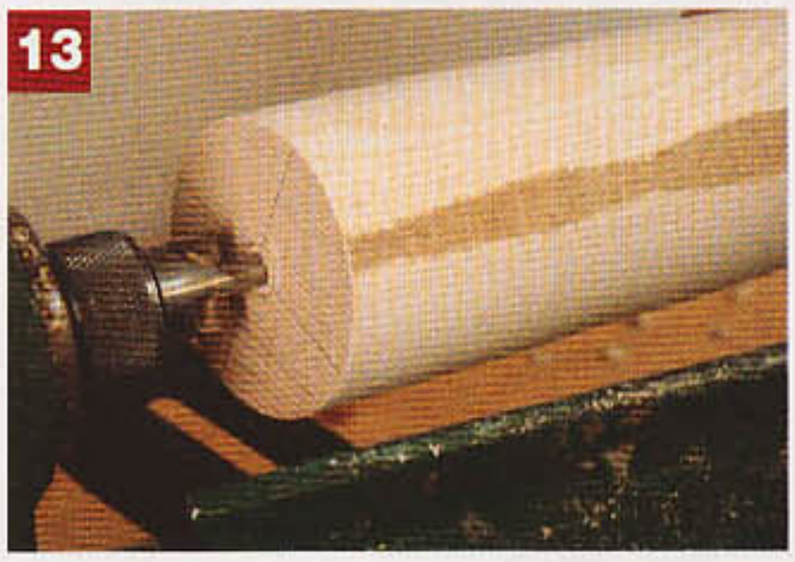
The boring process

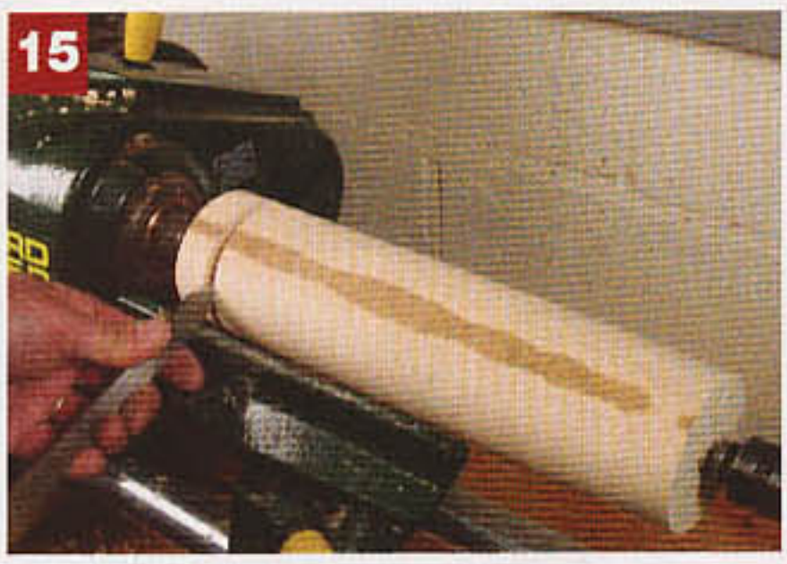
This is very straightforward provided you have the necessary long hole boring kit. Set up the hollow centre in the tailstock and feed the long pointed rod right through them both, into the mark left by the revolving centre in the blank, **Pic 11**. Now wind in the hollow centre having applied a little paste wax to it first. Spin the blank by hand as you go and then back off the centre very slightly to reduce the friction. Start the lathe on very slow speed and holding in the centring rod at the same time, wind the tailstock in a little further for extra tightness. Remove the rod and you should now be able to bore through the tailstock using the long auger, **Pic 12**. Bore only about 1in at a time, taking the auger out regularly to clear the swarf.

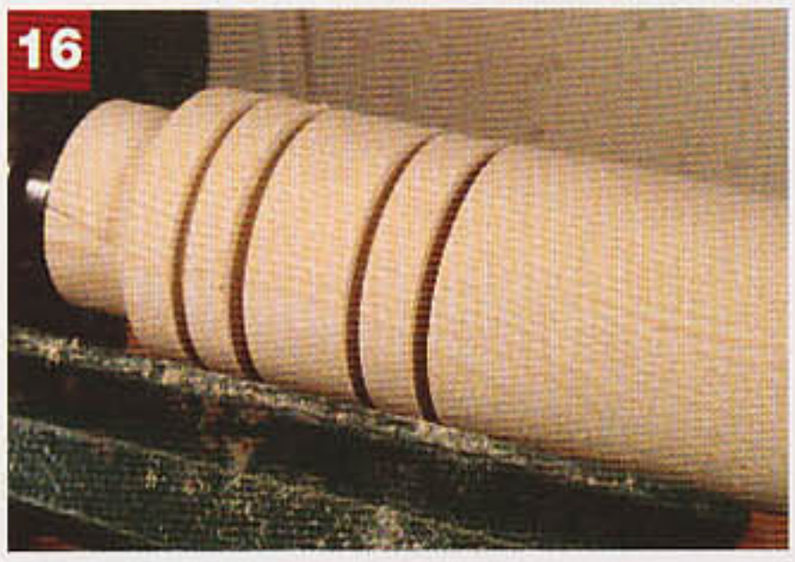
Advance about halfway down the spindle and then stop and reverse the work onto the counterbore tool which replaces the normal drive centre, **Pic 13**. Complete the boring going very gently with each pass of the auger, if all goes well the two holes should meet perfectly in the middle, **Pic 14**. If they don't it will be because you have probably forced the auger, or it is blunt, or a combination of both!

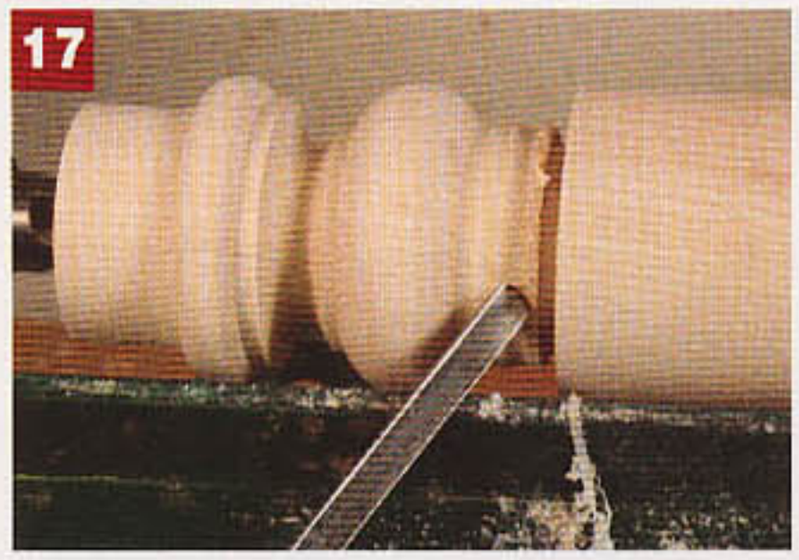
Profile shaping

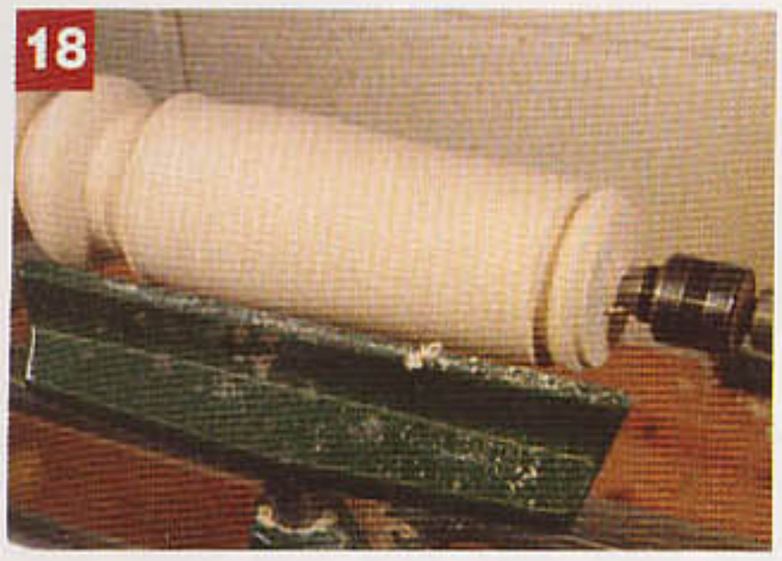
Now the stem is bored through, remount on the lathe using the counterbore and revolving centres and increase the speed to about 1500rpm. Start shaping the profile by forming the pin which eventually needs to be about 1in in both diameter and length, but leave the diameter very much oversize at this stage, **Pic 15**. As you form the pin undercut the end of the spindle slightly so that it sits firmly on the base when the two parts are assembled. Mark out the dimensions of the main detail using a parting tool, **Pic 16**, and then turn away the profile between them using normal spindle techniques, **Pic 17**. Once the detail at the base of the spindle is established, move the rest to the top end and complete this section. Clean up the end grain using the skew cutting vertically on its back and slightly

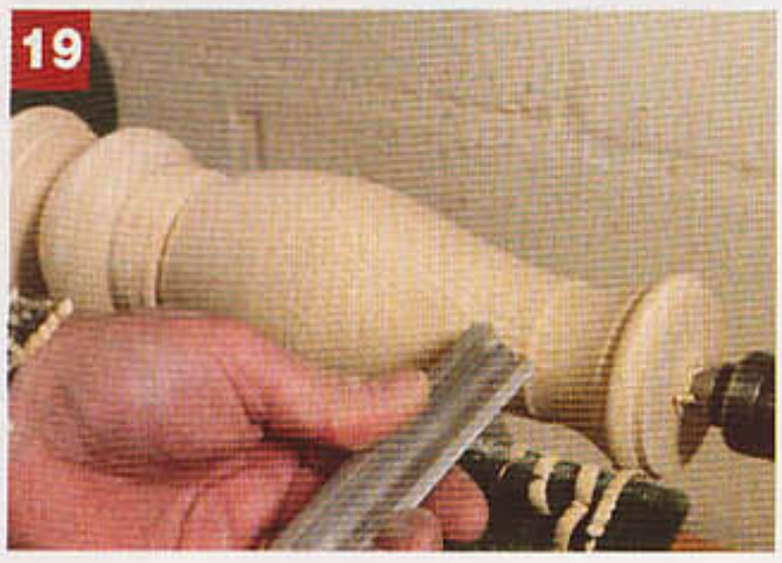


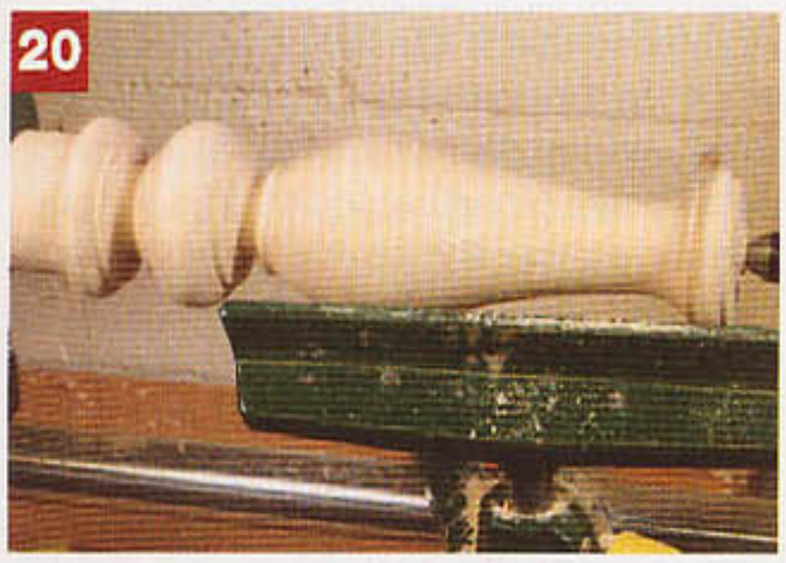












dome the top with a series of slicing cuts, **Pic 18**. Don't worry about getting right up to the centre as this will be machined away shortly. Then, fill in the rest of the detail using the roughing gouge to remove the bulk of the waste, **Pic 19**.

The secret to getting the profile looking balanced and having a pleasing shape is to remove plenty of timber, **Pic 20**. Most beginners make the mistake of leaving everything far too heavy, which never looks right. You can now reduce the pin to the correct diameter, which needs to be about 1in. Use the drive centre as a visual guide making it slightly bigger, **Pic 21**. This slight oversize will allow you to fit it accurately to the base later.

Sanding process

Now you can sand the profile carefully, starting at about 180 grit abrasive and working up through the grades to about 400 grit, **Pic 22**. As the wood fibres tend to be laid down in one direction by the sanding process it is a great help to be able to reverse the direction of rotation. As this facility is only available on very expensive machines you can get the same effect by swapping the blank end for end between centres, **Pic 23**. When you are happy with the sanding, seal the surface thoroughly with a coat of cellulose sanding sealer, rubbing it well in using a cloth while the lathe is stationary, **Pic 24**. The sealer will dry in a matter

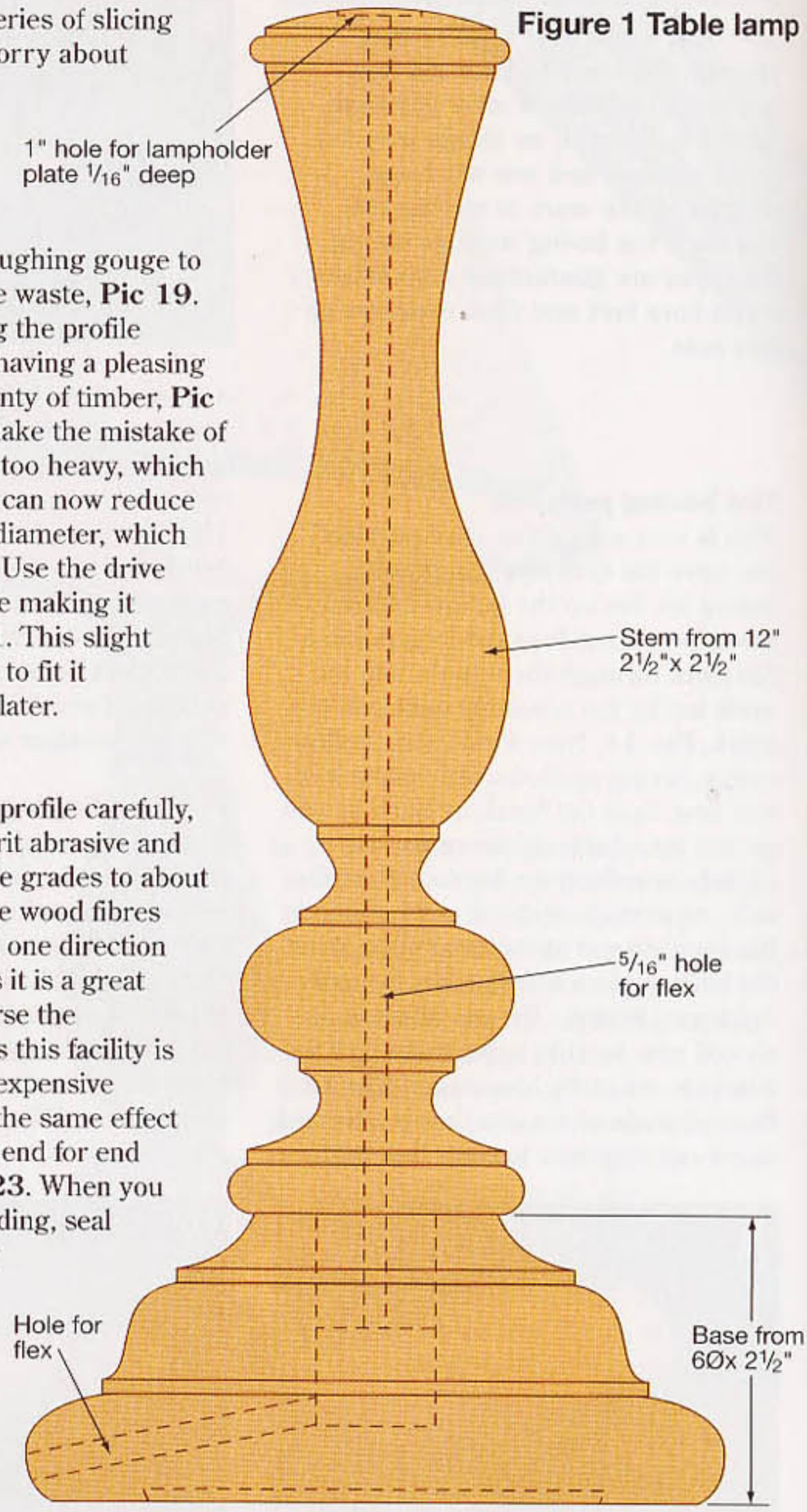
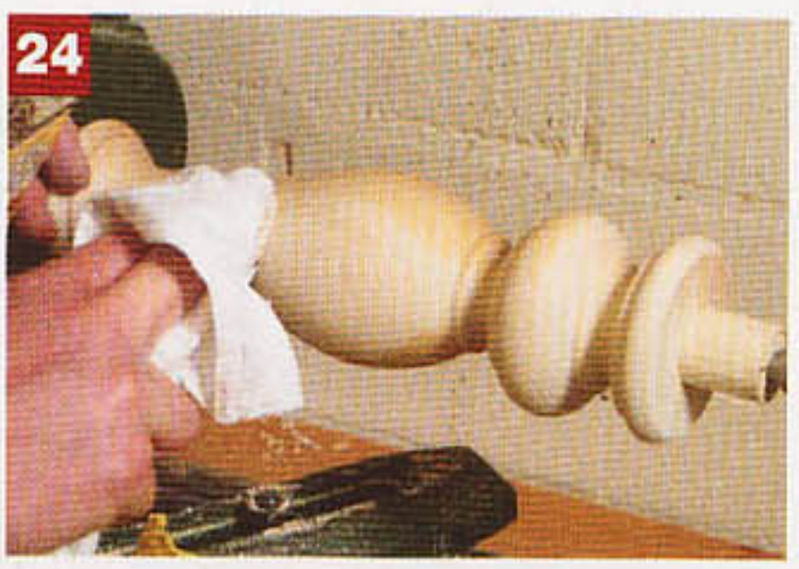
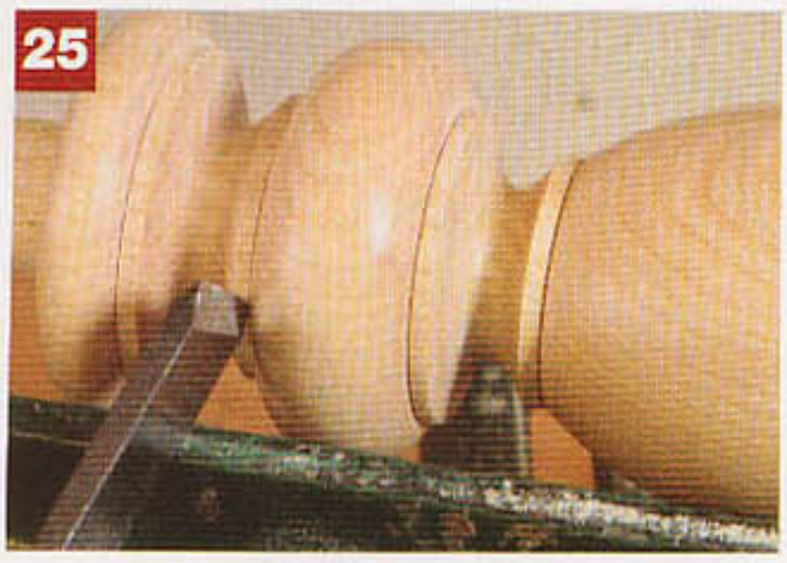
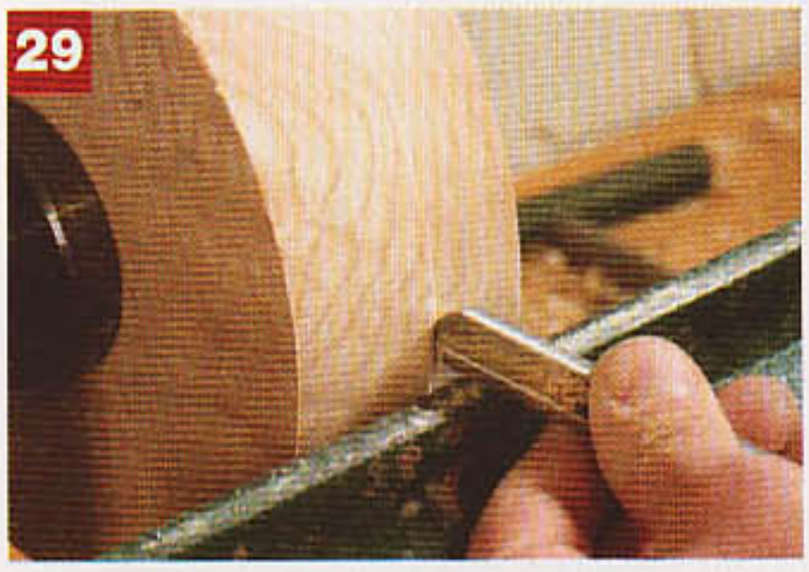
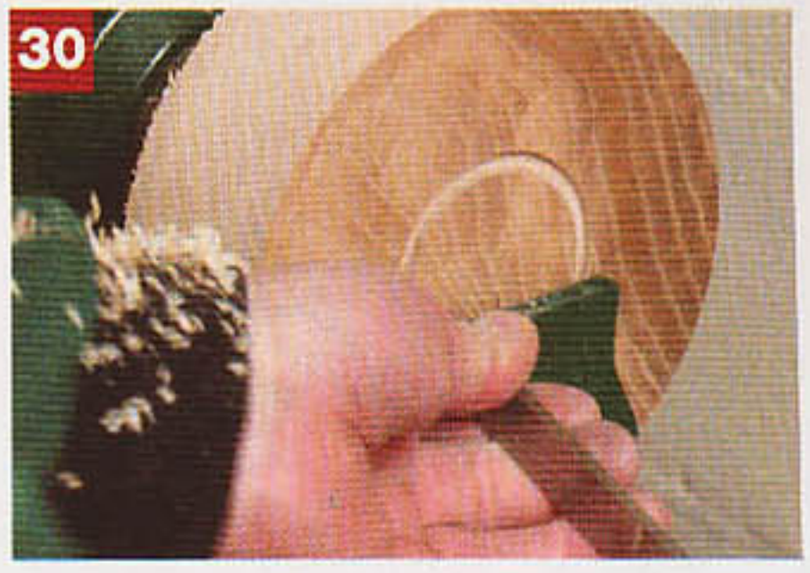


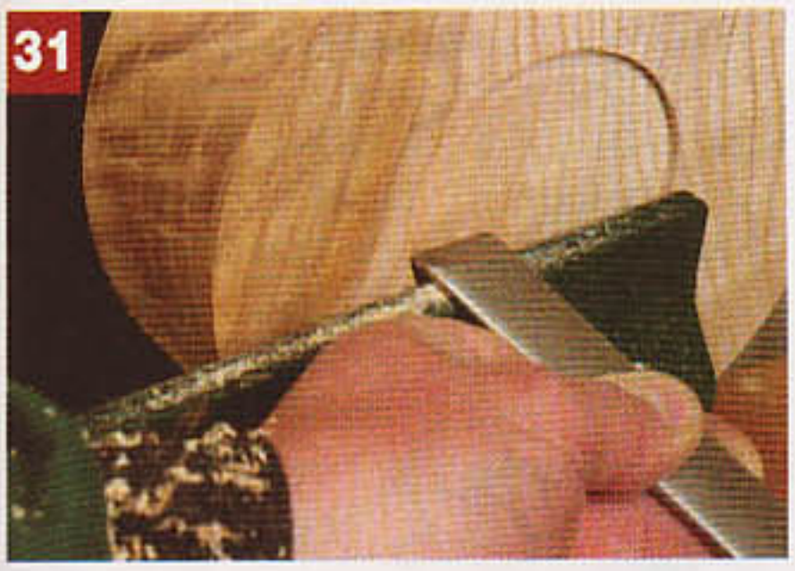
Figure 1 Table lamp











of minutes, but it will raise the grain slightly so flat it down using the 400 grit abrasive again and then apply another coat. With the surface now properly prepared you can apply the friction polish, but just before you do, use your skew chisel on edge to incise a very fine line at all the changes of detail, **Pic 25**. This makes the whole job look much crisper after the sanding which tends to blur it all together somewhat.

Put the friction polish on with a cloth, applying a generous coat with the lathe stationary to start with and then spinning it at about 1500rpm and buffing it with a clean and dry cloth, **Pic 26**. A quick wipe over with a stick of carnauba wax as it is still spinning and a final burnish will leave a super smooth glossy finish.

With the stem completed, reverse it onto the pilot of the counterbore tool but don't engage the teeth. Start the lathe and holding the stem firmly in your hand wind in the tailstock to push it onto the revolving counterbore, drilling in about 1/16 inch deep, **Pic 27**. The resulting hole is an exact fit for the lamp holder fixing plate and counterboring like this leaves a very neat finish with the plate firmly recessed into the top of the stem.

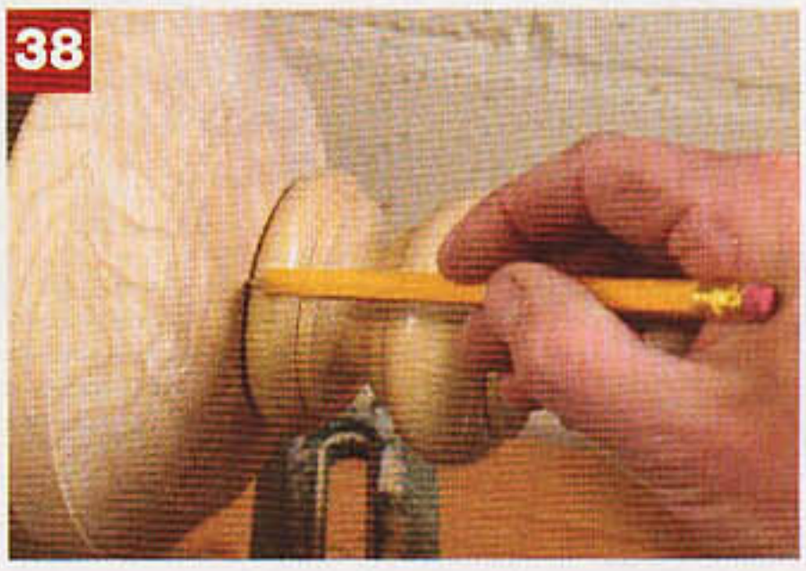
Turning the base

Now turn your attention to the base of the lamp mounting the blank on the screw chuck to turn the underside, **Pic 28**. As the blank has been cut quite true, spin the lathe at about 1000 rpm and trim up the edge using a small bowl gouge, **Pic 29**. This reduces any vibration and makes the rest of the turning very much smoother. Move the rest round to the face of the base and put in a dovetail recess for reverse chucking, making the initial cuts with a parting tool, **Pic 30**, and then removing the waste with a small gouge before putting in the dovetail edge with a skew chisel, **Pic 31**. At this stage it is also easier to form the radius of the detail on the bottom edge of the base, **Pic 32**. Sand and polish the flat surface of the base just as you did for the stem and then reverse the work onto the chuck, **Pic 33**.

Use the bowl gouge again to start shaping away some of the waste material, **Pic 34**, and then fit a 1in drill in the Morse taper chuck in the tailstock. Use this to drill a hole a good 1½in deep, but remember that the chucking recess in the base will have reduced the overall thickness, so don't go right through! You must also drill a hole through the side of the base to take the flex. Do this using a power drill with a suitable 5/16 inch bit, but aiming slightly upwards to emerge in the bottom of the 1in hole, **Pic 36**. As the cable will always be at the back of the lamp choose the worst side of the base for drilling this hole.

Base detail

Adjust the size of the large hole if necessary, using a skew chisel, until the pin on the stem is a nice push fit, **Pic 37**. Then draw around the base of the stem to show where the detail needs to start, **Pic 38**. Form some sort of bead effect where the base and stem come



SAFETY TIP: If you are making lamps for sale there are a number of important safety points. All lamps must be CE marked and to enable you to do this yourself they must comply with a series of specific regulations. For instance, the flex must be retained in the lamp in such a way that it is able to resist a determined pulling force. To check all the relevant requirements, please contact your local Trading Standards Office who will advise. As with all things electrical, if you're not sure of the wiring procedure always consult a qualified electrician.

together to try and disguise the join, **Pic 39**. If you do this properly the effect should be that the lamp has been turned from one piece of timber and the joint is hard to distinguish, **Pic 40**.

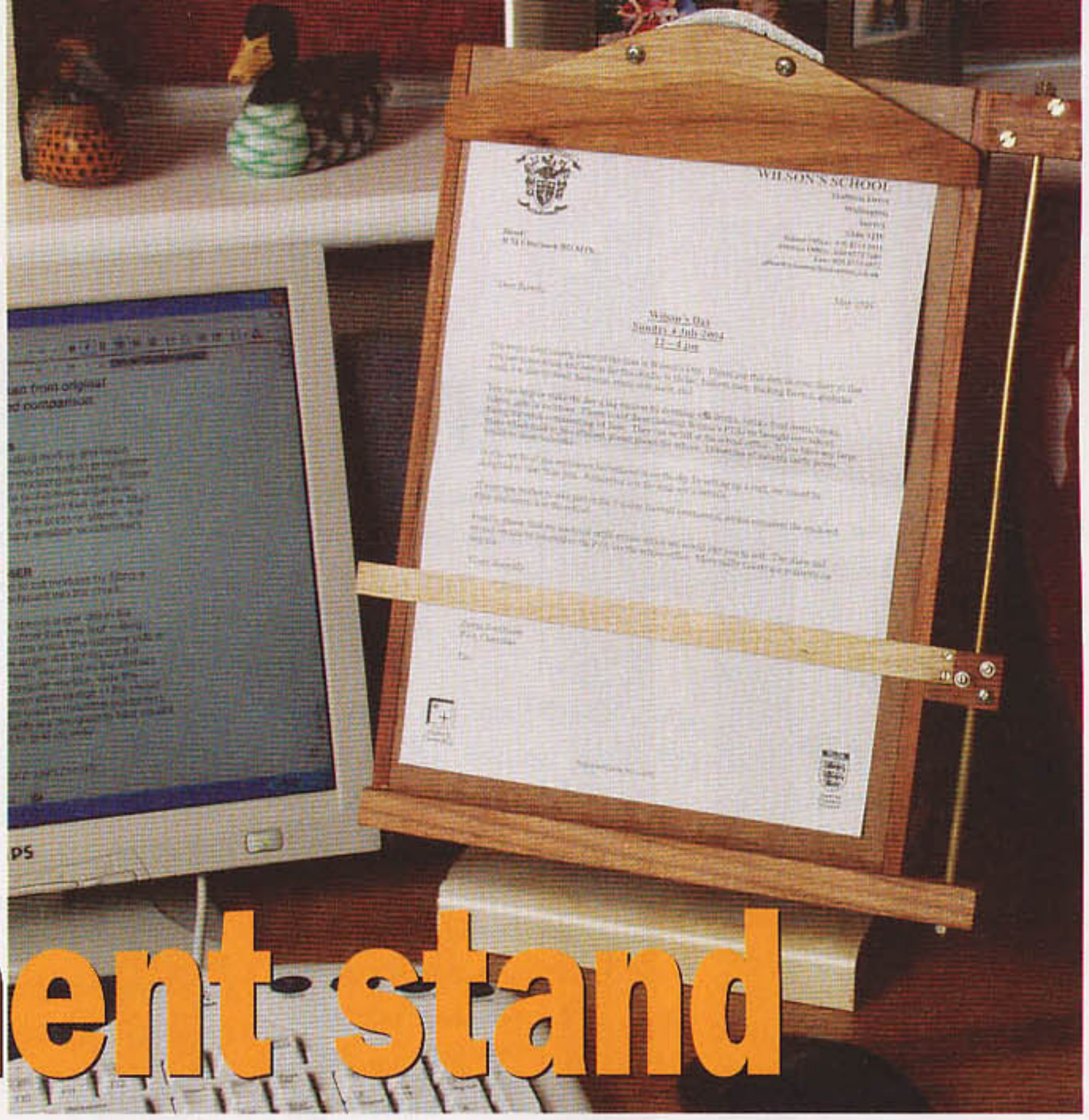
Sand and polish the base as you have done for the rest of the lamp, but do take care that all the end grain areas are smoothed properly as these tend to rough up more during the turning process, **Pic 41**.

Lamp assembly

To assemble the lamp, thread the flex through the base and then up through the spindle, **Pic 42**. Screw the fixing plate into the top of the spindle, **Pic 43**, then wire up the lamp holder and pull back any surplus flex. Put a thin smear of wood glue onto the pin of the stem and assemble the two parts, **Pic 44**. Notice that there is enough clearance at the end of the pin to allow the table to bend round into the side hole.

Don Gill needed a document stand for his computer. They can easily be bought in shops, but when did that ever stop a woodworker with a load of offcuts in the workshop from making their own?

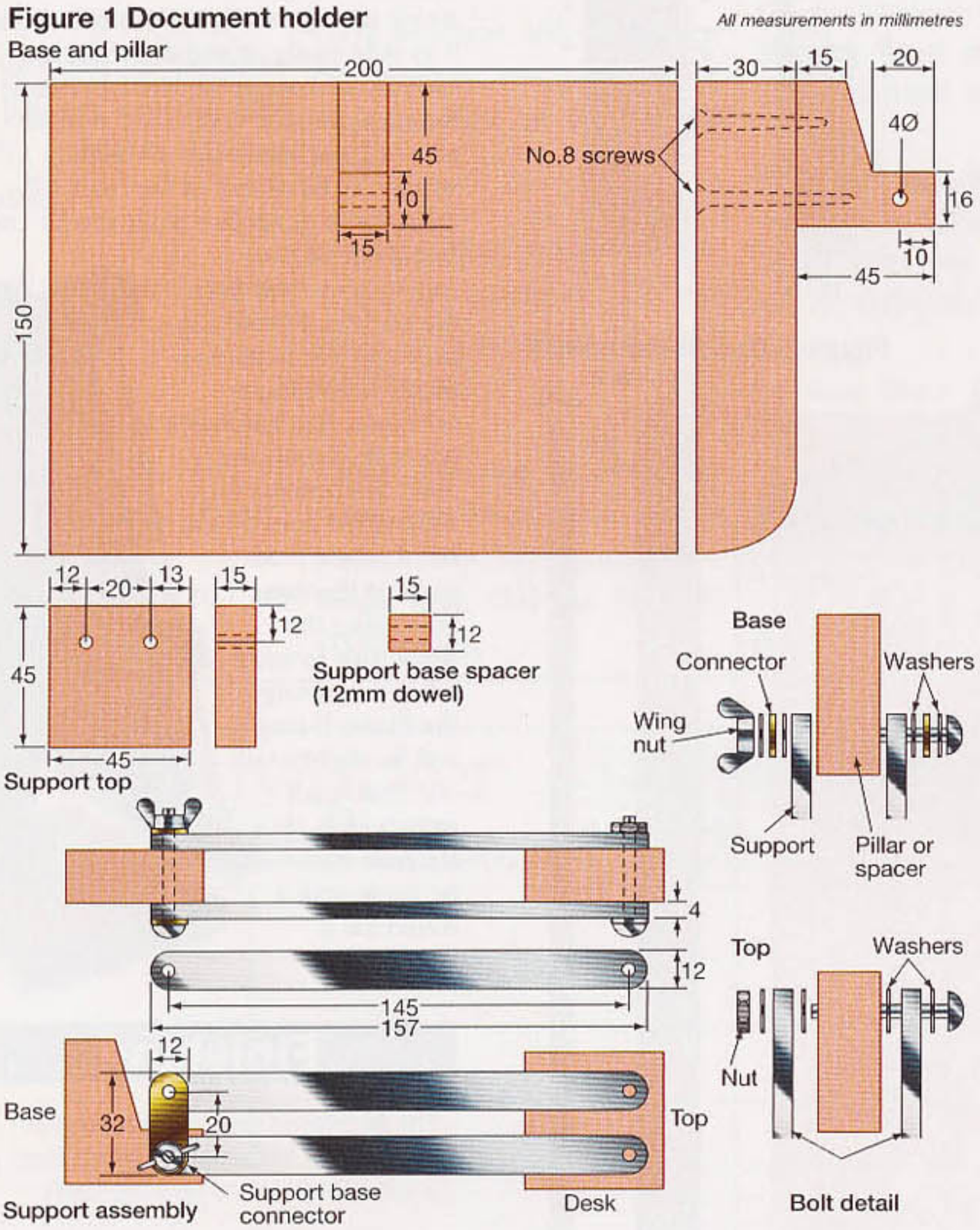
The dimensions for this project were governed largely by what I had available at the time and are not critical. The most important thing to remember is that the desk needs to be large enough to hold a sheet of A4 paper with enough space at the top to mount a clip to hold it in place.



Document stand

Figure 1 Document holder

All measurements in millimetres



"The most important thing to remember is that the desk needs to be large enough to hold a sheet of A4 paper"

Base and support

The base is made from a piece of kitchen worktop, the cut edges being veneered. A pillar to hold the desk support in place is screwed onto the base. The support for the desk is a parallelogram so as to allow the desk to be adjusted in both a horizontal and a vertical plane. Because I'm abysmally poor at spatial relationships I originally mounted both of the bottom ends of the support on the pillar which meant the desk could only be adjusted in the horizontal, the tilt remaining constant. This was corrected by allowing the farther end of the support to 'float'. The top ends of the support are bolted onto a block to which the desk can be screwed. Some experimenting was needed to find the right arrangement of washers on the bolts. The drawing shows what seems to work with the wood to wood contact on the bottom supports providing enough friction to allow the desk to be adjusted easily while staying in position once adjusted.

The clipboard

The basis of the desk is a clipboard made of 3mm hardboard. A wood frame, the bottom of which acts as a

Figure 2 Document holder

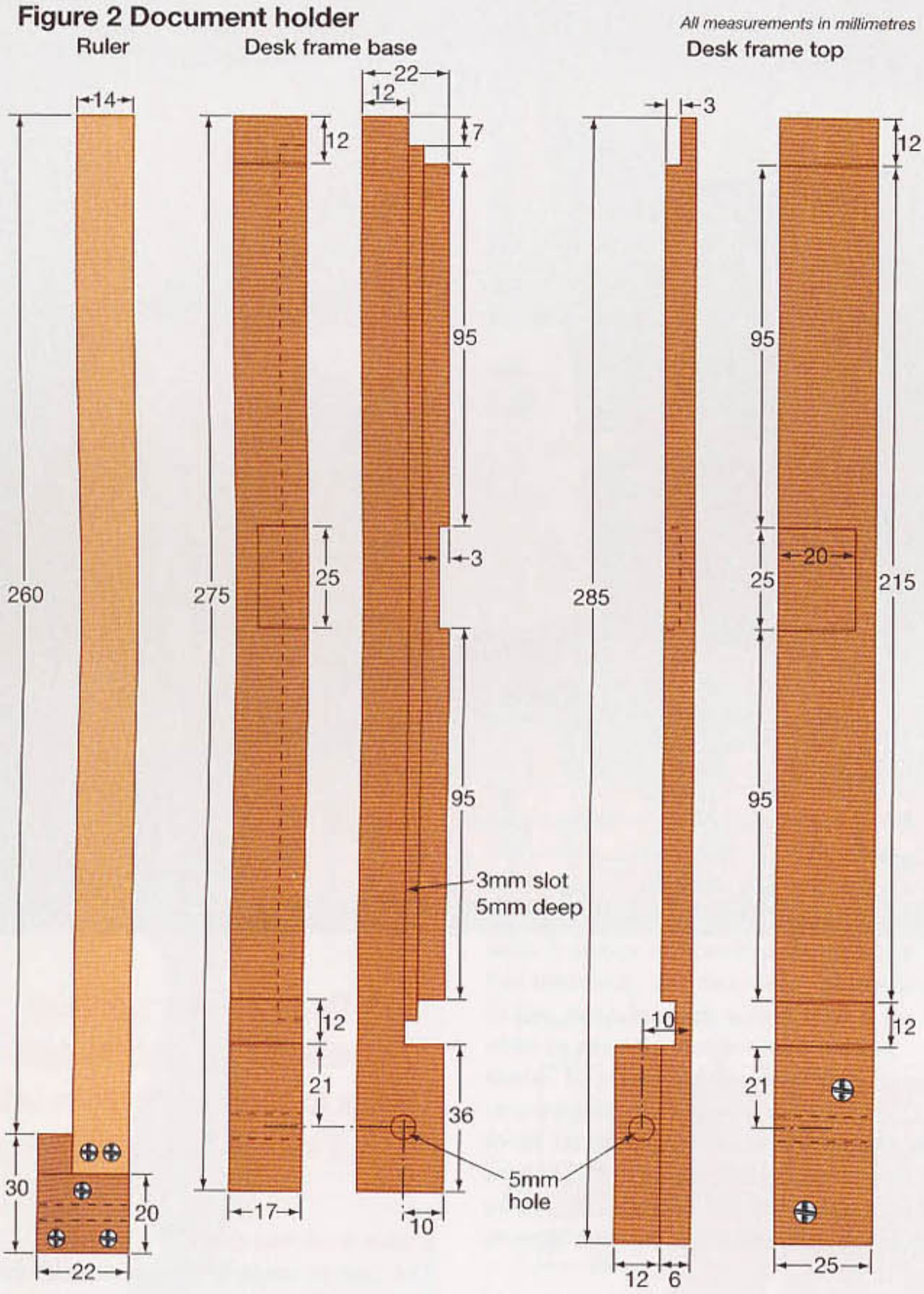
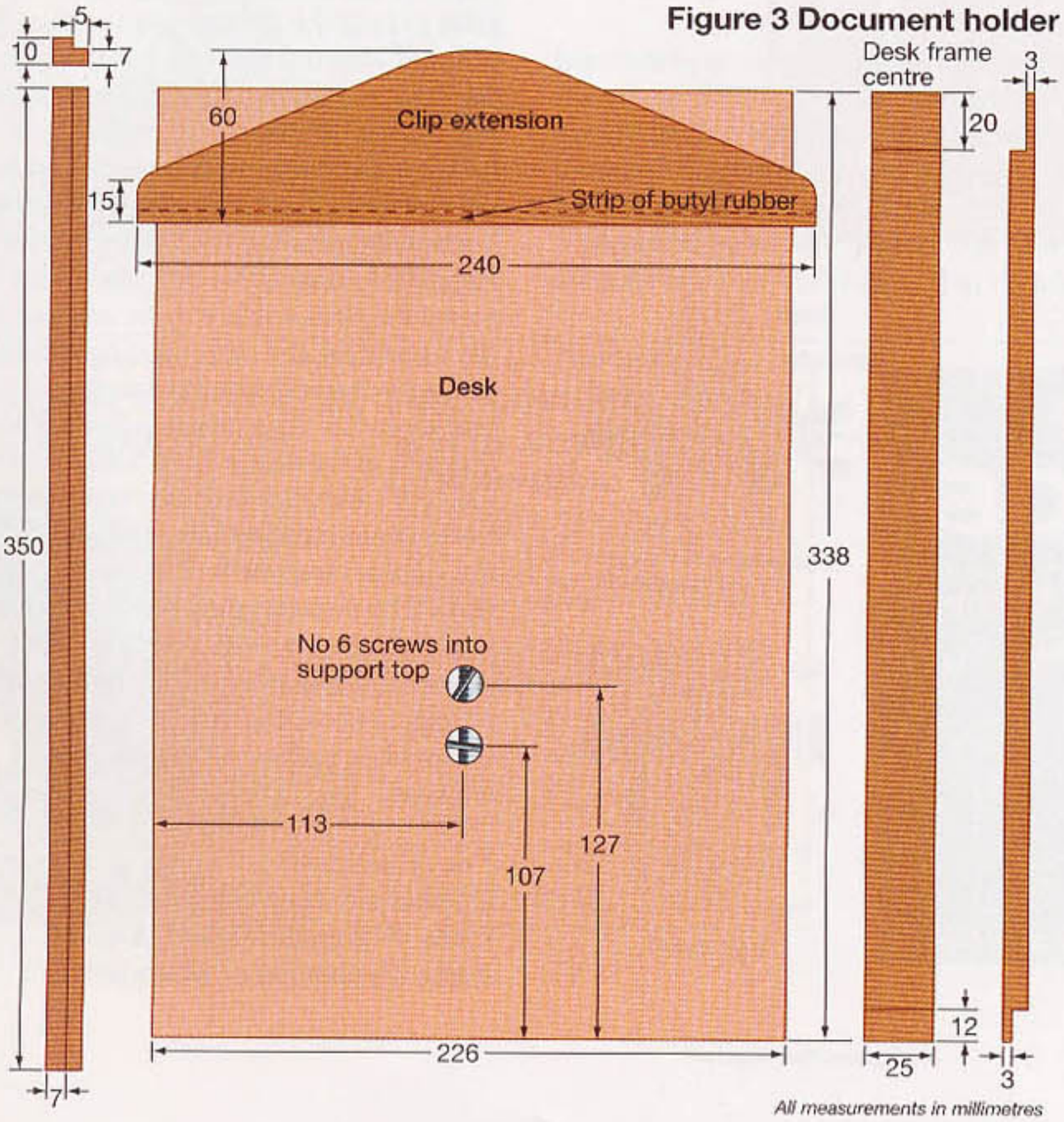


Figure 3 Document holder



support for the paper, is made with halving joints, the sides being rebated and the bottom having a slot to hold the hardboard in place. There is also a centre piece to the frame to increase the stiffness of the desk. The clip at the top is from the clipboard and is bolted to the top of the desk with a piece of 4mm thick wood. This is bolted to the clip to form an extension across the full width of the desk. I found I had to glue a thin strip of rubber on the underside of the extension to make sure a sheet of paper could be gripped securely. A modified large bulldog clip would probably do just as well.

Line by line ruler

Finally a ruler which can be moved down the paper line by line is needed. This is made from a strip of 1.6mm ply bolted to a block which slides on a 5mm brass rod threaded at both ends and fixed between extensions to the top and bottom of the desk frame.

The block is made in one piece, a 5mm hole is drilled through and the block is then cut in two through the hole. One half has a cut-out made to take the end of the ruler. The block and ruler are attached to the rod with three bolts which are tightened just enough to allow it to slide easily up and down the rod. Getting the hole in the block in exactly the right position is the most difficult part of the whole job. If it's slightly wrong the block end of the ruler will meet the desk surface while the far end is still one or two centimetres away from the surface. I found the best way was to glue up the desk and frame, clamp the block to the top of the frame and mark the position for drilling the hole with a bit of pointed rod while at the same time using the frame side to mark a line for cutting the block. It may still be slightly out but final small adjustments to the hole can be made with a round file if necessary.

Finishing

The document holder is simply given three coats of Danish oil which gives it a smooth and hard wearing finish.