

Toybox

Designed and constructed
 by Neil Alexander



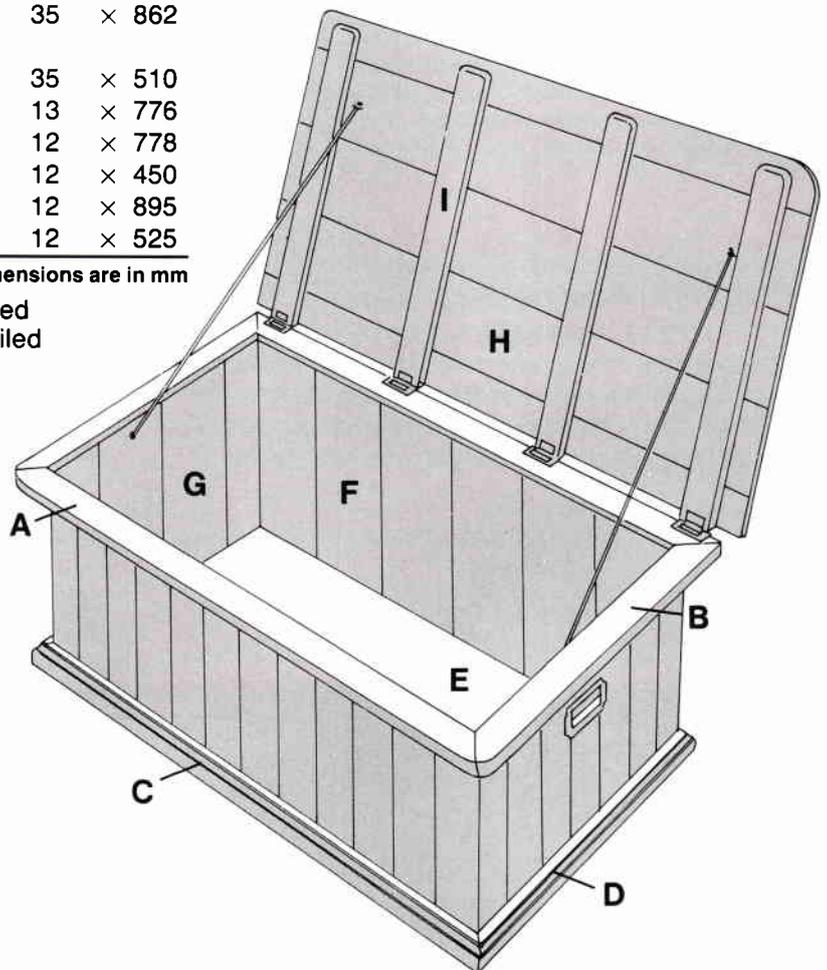
This toybox is elegant enough to be used as a blanket chest when the children grow up. If used as a toybox for very young children it may be wise to pad the top edges of the box or alternatively the bottom of the lid, so that little fingers are protected if the lid is dropped. For this same reason the box top braces have been severely rounded over and they have also been designed to provide finger clearance between the lid and box edge. The gap thus created does not look unattractive if the lid overhangs the box as in our example. We have also fitted a safety prop that prevents the lid from fully closing until the prop is pushed aside.

Component Specifications

Part No.	Description	Quantity	Width	Thickness	Length
A	Top frames — long	2	42 ×	35 ×	862
B	Top frames — short	2	42 ×	35 ×	510
C	Bottom frames — long	2	70 ×	35 ×	862
D	Bottom frames — short	2	70 ×	35 ×	510
E	Box base	1	425 ×	13 ×	776
F	Box sides — long	2	400 ×	12 ×	778
G	Box sides — short	2	400 ×	12 ×	450
H	Box lid	1	532 ×	12 ×	895
I	Box top bracing	4	60 ×	12 ×	525

All dimensions are in mm

Note: Dimensions given here should only be used as a guide. All component cutting to size is detailed in construction notes.



Tool Requirements

- ESSENTIAL** Triton workcentre and your power saw, hammer, nail punch, screwdriver, drill and drill bits, countersink bit, sandpaper.
- USEFUL** Length gauge fitted to your workstops, and an extension fence fitted to your protractor . . . see Step 6. And optional: Triton accessory router table and your router, decorative router bits ("Roman Ogee" bit and "Rounding Over" bit used in our example — available from better hardware stores and tool suppliers, or our Customer Service Department), mitre clamps, Triton sanding disc.

Construction Details

Material Shopping List

1. WOOD Radiata Pine lining boards (also called "internal panelling") are used in this project for the sides and top. Lining boards are also commonly available in Western Red Cedar, Californian Redwood and Tasmanian Oak. Note however that while the Radiata Pine and Tas Oak lining boards are normally 12mm thick, Western Red Cedar and Californian Redwood are usually 10mm thick. Our detailed instructions call for rebates to be made to suit the 12mm material; adjust rebates if using different material.

Shop for:

140×12mm tongue and groove lining boards (cover = 133mm after allowing for tongue/groove) — 4 @ 2.1m, 3 @ 1.8m

70×35mm pine — 2 @ 1.8m, 1 @ 2.4m (For the top and bottom frames).

13mm chipboard: 1 @ 450×800 (approximate) for the base.

2. FASTENING

- * 25mm brads/nails
- * PVA or equivalent wood glue.
- * 4 brass hinges with screws ("non-mortice" type are the easiest to fit).
- * 40 woodscrews for lid bracing — $\frac{3}{4}$ "/20mm 6G

3. OTHER Brass handles for sides, wood putty, cord or string (plus small staples to secure) for the lid stays, satin or gloss polyurethane for finishing.

In the crosscut mode cut the two 70×35×1.8m lengths to four 900mm pieces, and the 70×35×2.4m length to four 600mm pieces. These will become the top and bottom frames. At this point they do not need to be cut accurately; exact size will be cut when mitering.

General Points

1. Top and bottom frames are made first, then the sides are made and fitted, followed by the base and lid.
2. When making the sides note locations of the tongue and groove joints . . . the drawings of the side elevations are useful for this.

2 The rebates in these pieces are cut next, in the table saw mode. The rebates are 25×40mm (see detail drawings). Therefore set saw blade height to 40mm and your rip fence at 22mm (assuming the standard 3mm kerf).

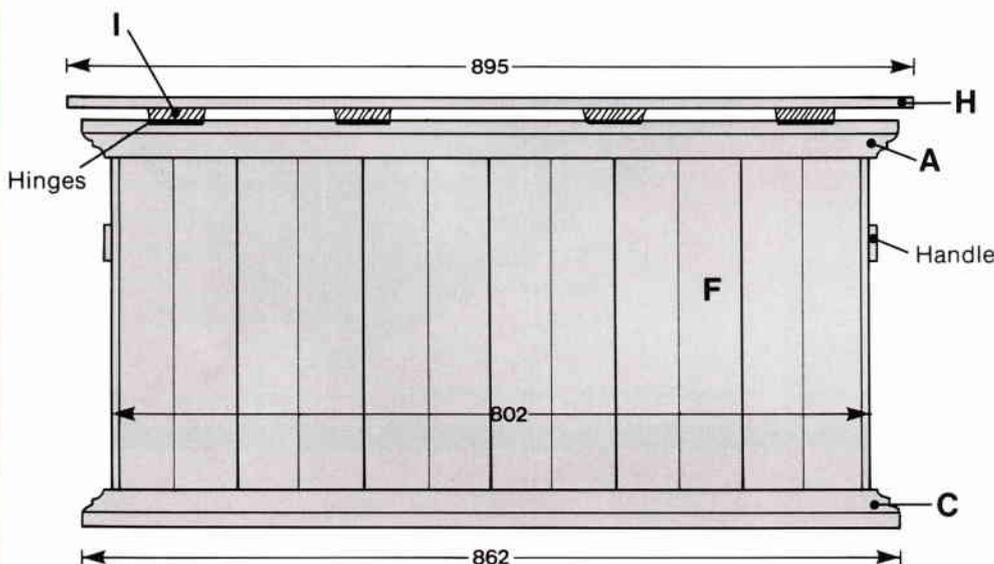
To check your settings use a piece of scrap the same dimensions as your workpieces. Make your first cuts with your material on edge.

Safety Notes

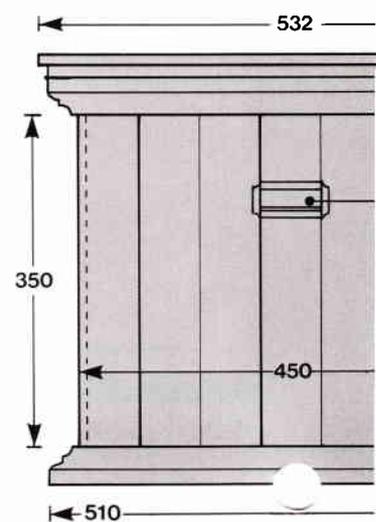
This type of cut prevents use of the safety guard. Do not trail your fingers behind the workpiece. Use a push stick to finish the cut.

3 Reset saw blade height at 25mm and fence setting at 30mm and test your settings on the scrap piece first. If there is a "step" inside the rebate adjust blade height up slightly — it is better to overcut a little. When settings are correct complete the rebates on all eight workpieces.

Figure 1



TOYBOX VIEWED FROM THE BACK



TOYBOX VIEWED FROM THE FRONT

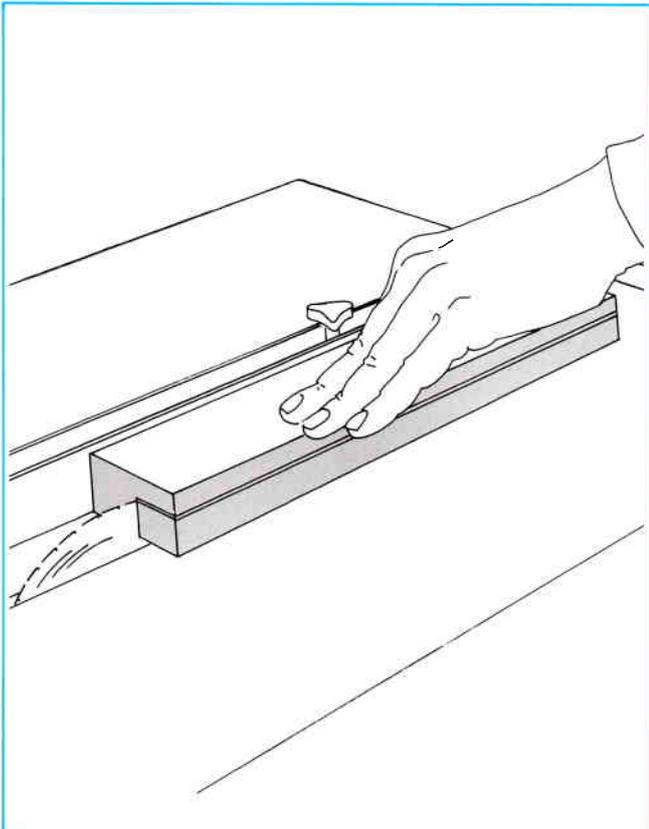


FIGURE 1

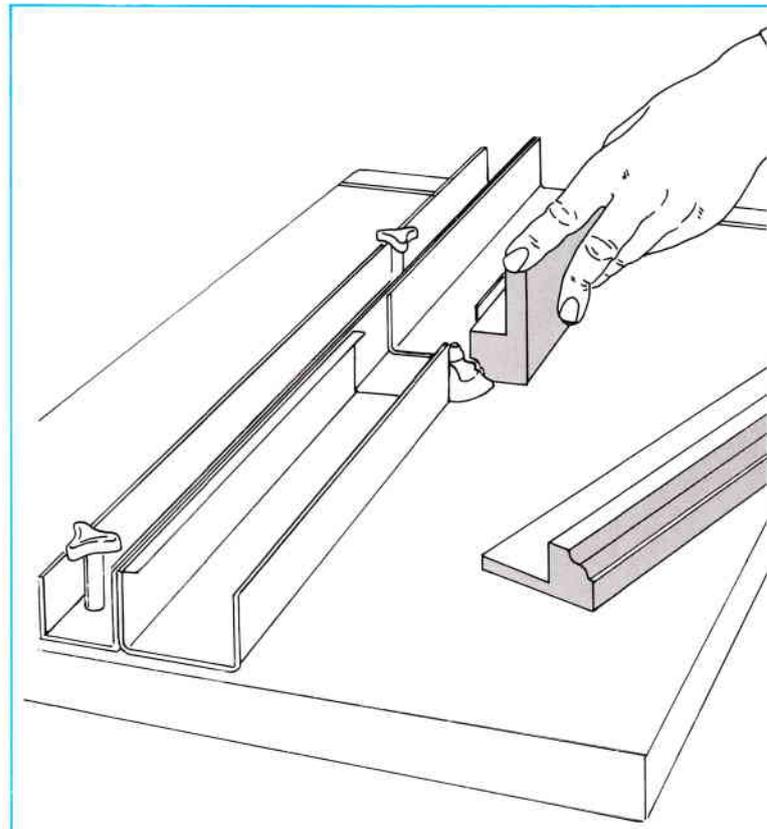
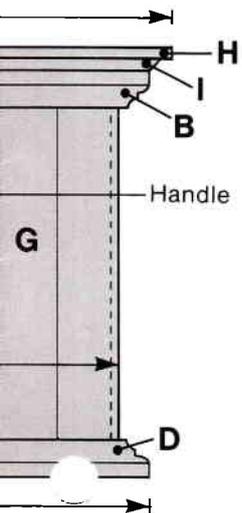


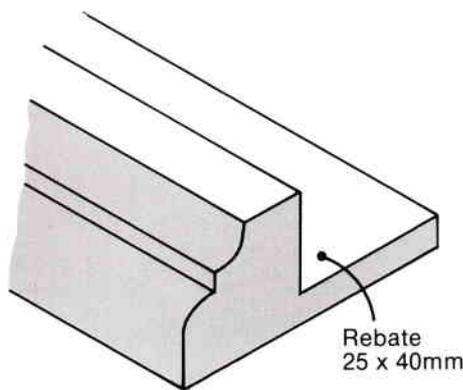
FIGURE 2

4 The top frames are narrower than the bottom frames — their rebates only need to house the lining boards. Set the rip fence at 43mm, and rip the top frames to their correct width, cutting off the excess rebate. Do not forget to refit the safety guard, and use a push stick when narrow ripping.

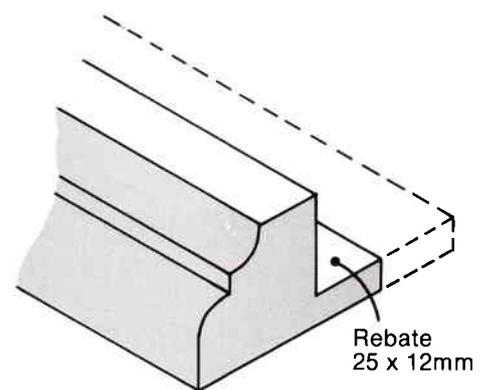
5 The frames look better with a decorative outer edge, which can be cut with your router in the Triton Router and Jigsaw Table. A “Roman Ogee” bit with a guide bearing was used in our example. Beginners in router work may want to refer to their Operating Manual (“Shaper Table”), or the Picture Frame project for guidelines. **Figure 2**



THE SIDE



BOTTOM FRAMES = Components **C** and **D**
(prior to mitre cut)



TOP FRAMES = Components **A** and **B**
(after being ripped to size,
before mitre is cut)

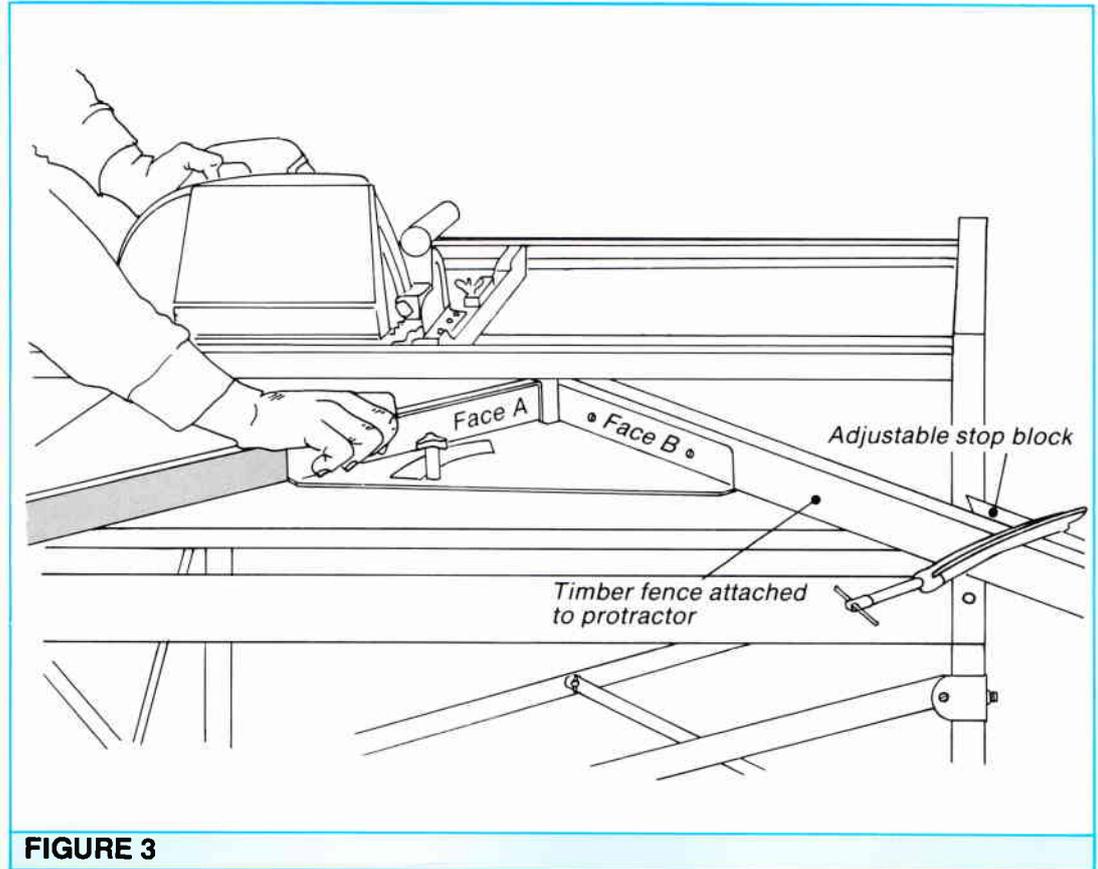
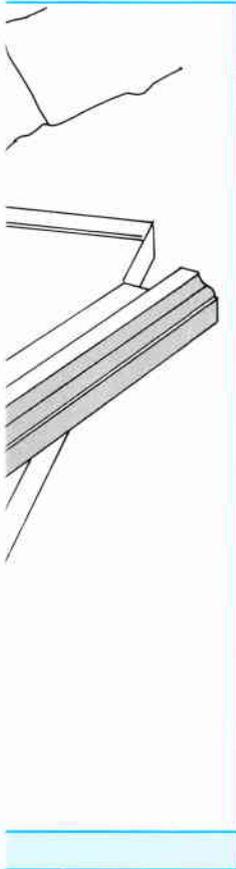


FIGURE 3

6 Convert to the crosscut mode for cutting the frame mitres. An extended timber fence with an adjustable stop block attached to face B of your protractor is needed, so fit this now. (Note that the stop block has one end mitre cut.) Fit your protractor set at 45 degrees to your worktable and clamp the protractor in position.

First mitre cut the ends of all eight workpieces on face A of the protractor (the face without the extension). **Figure 3**

Then use face B with the extended fence, and your stop block, to cut the four long frames at 862mm total length. The four short frame components can be cut next at 510mm total length. **Figure 4**

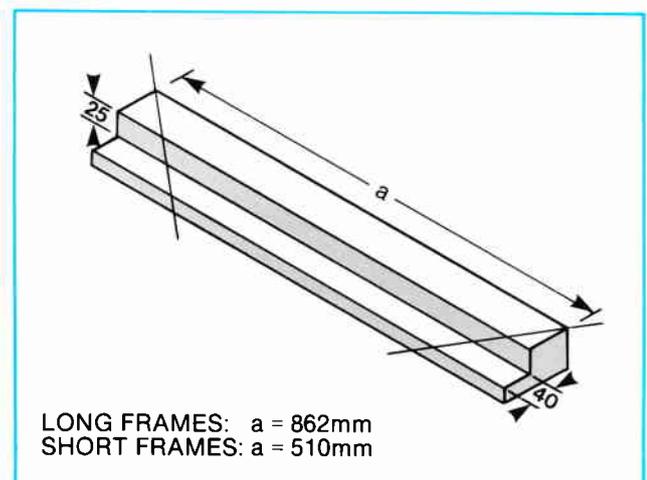
When cut assemble the frames, gluing the mitre joints and nailing two 25mm brads into each corner. A mitre clamp is helpful here.

7 The sides are made next. From each 2.1m lining board crosscut five 400mm lengths, using a length gauge on your workstops for speed and accuracy. This results in twenty 400mm boards.

Change back to the table saw mode. Set the rip fence at 123mm and remove the tongues off four boards, and the grooves off two other boards. The long sides consist of a board without a groove, then four normal tongue and groove

boards, and then a board without the tongue. The short sides consist of a board without a tongue and three normal boards. For each side loosely assemble the four boards, measure and mark out the total width (450mm) and rip the end board so that the whole side is the correct width. Fence setting in our example was 64mm. Make sure your waste is the "grooved end" of the short side.

8 Fit the short sides into the completed bottom frame, and then fit the long sides in place. Glue and skew nail into position with the 25mm brads. **Note:** if you have any



Construction Details

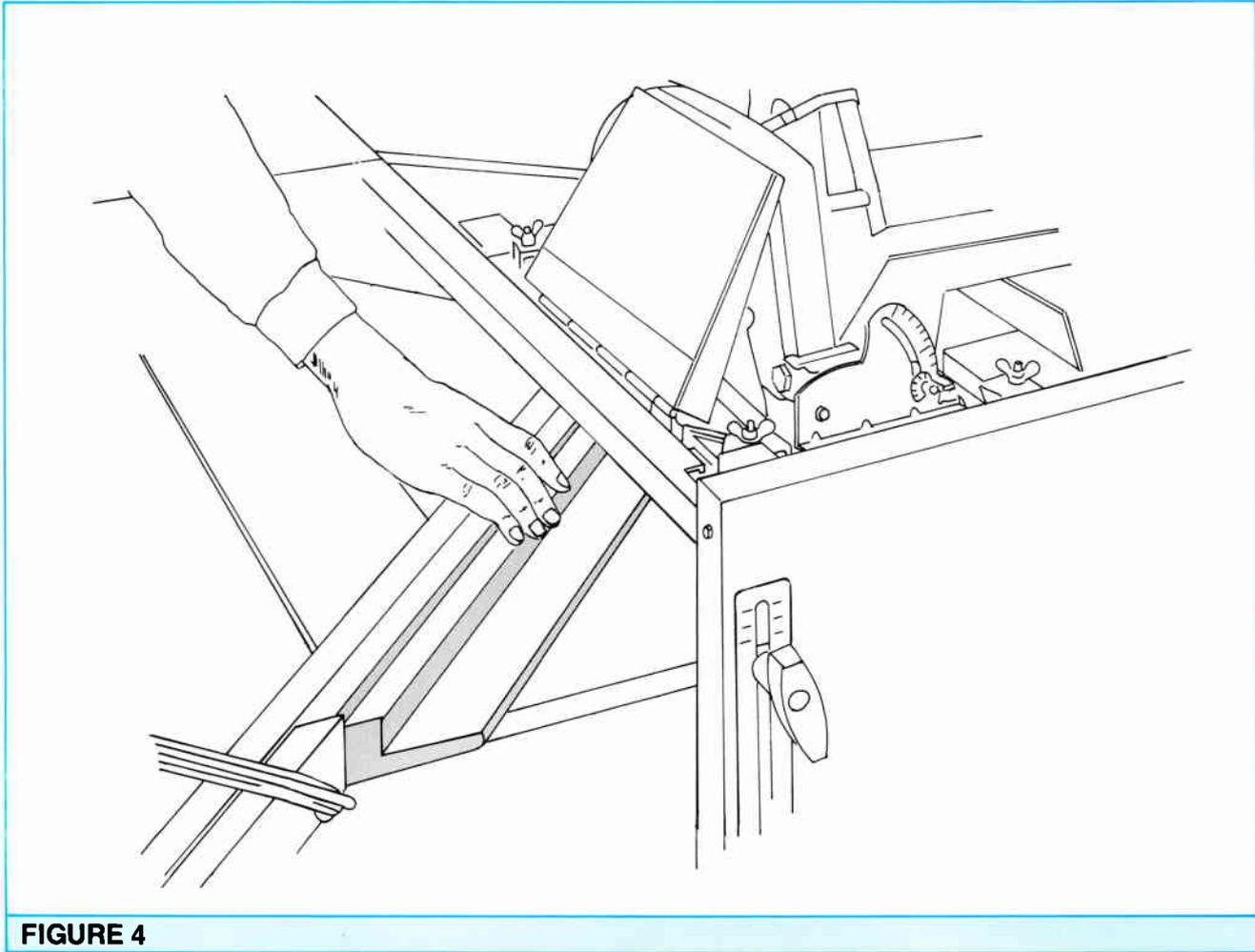


FIGURE 4

gaps where the sides meet, spread the tongue and groove boards out evenly across the total span. Fit the top frame onto the sides, again gluing and nailing.

9 Measure the inside dimensions of your box, and cut your chipboard to suit. Leave about 0.5mm clearance each end so that you can fit your base without too much difficulty. You may need to use the wide rip position on your table saw to cut the long sides, and then the crosscut mode to cut your chipboard to exact size. Glue the base in position. **Figure 5**

10 The lid is made next. Using your length gauge and adjustable stop block (crosscut mode), convert two of the 1.8m lining boards to four lengths at 895mm. Convert to the table saw mode and rip one of these boards down the middle (fence set at 66mm) — these are used on the front and back edges of the lid. Fit the boards together ensuring the ends are flush. The box top bracing (l) is made by ripping the tongue and

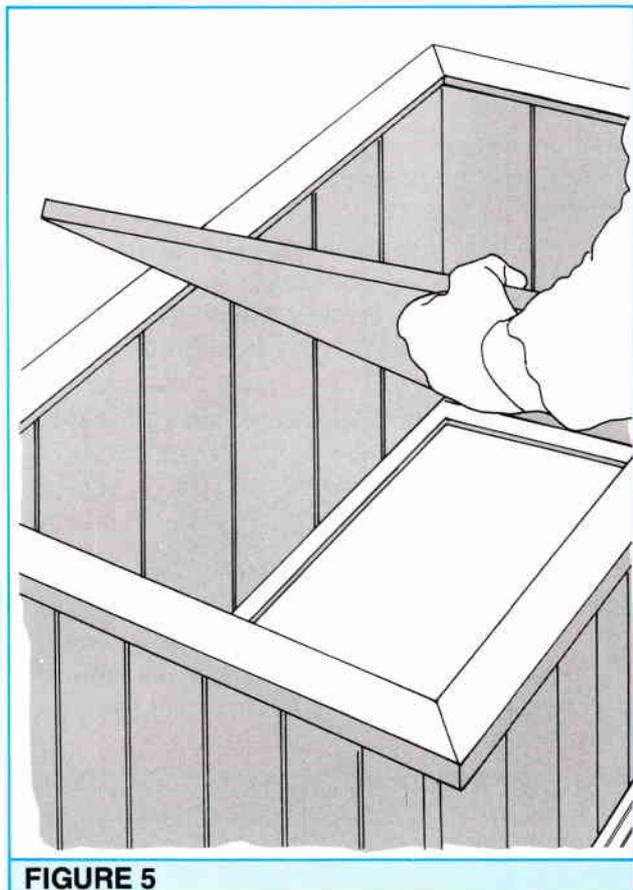


FIGURE 5

Construction Details

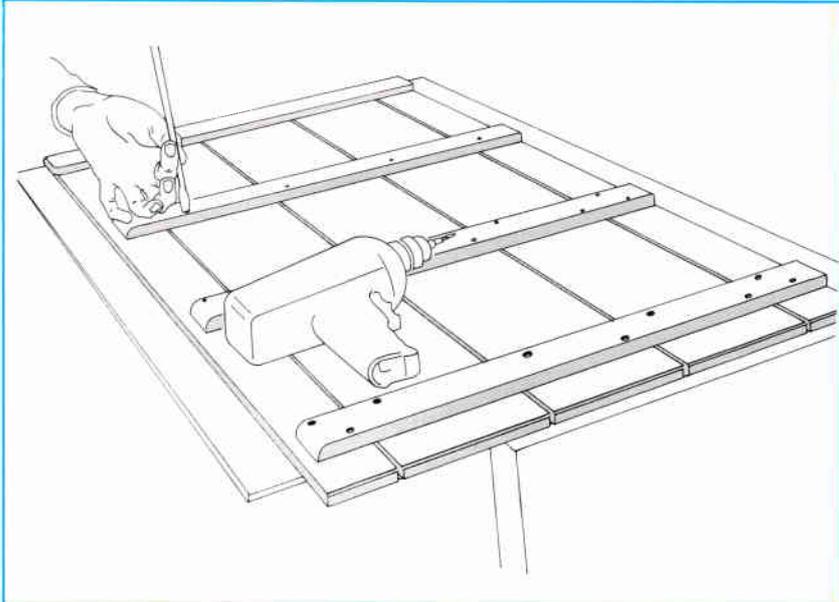


FIGURE 6

groove off the remaining 1.8m length, and ripping this resultant board down the middle. You can use your protractor in the table saw mode to crosscut these pieces to length (525mm) by measuring, marking and cutting in each case.

Radius the front corners of the box lid. A Triton Sanding Disc mounted onto your saw is useful here.

If you have a rounding-over bit for your router, round the long edges and one end of each of the bracing pieces. Otherwise plane and/or sand these pieces to remove their edges (one face and one end only).

Now fasten the bracing to the lid using ten 20mm/6G woodscrews spaced evenly along each brace. Drill and countersink in each case. **Figure 6**

If the toybox is to be placed somewhere near a heat source or exposed to the sun the top made in this fashion may warp slightly. The materials for the lid have been deliberately chosen to ensure a lightweight top . . . if you are concerned about possible distortion of the lid you should "slot screw". (Slot screwing allows for some timber movement. Use round headed screws and elongate the holes in the bracing components (I) in the direction of the length of the brace. Do not glue.)

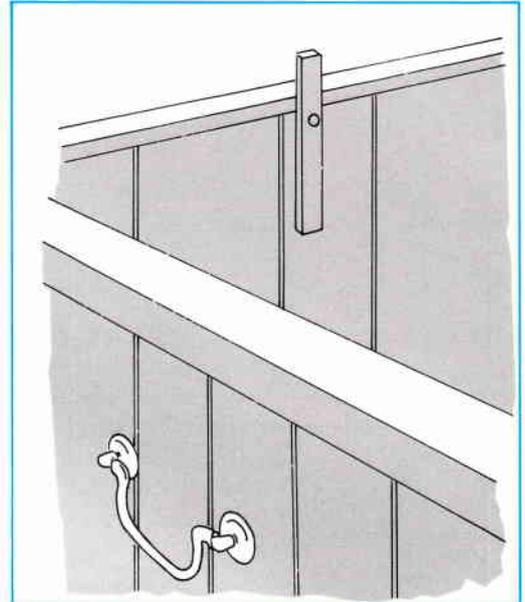


FIGURE 7

Round over the top frame front corners as well for safety. Fit your hinges to the lid and top frame of the box. The rear of the box lid is flush with the rear of the top frame which provides a degree of overhang on the front.

The safety prop should be fitted at this stage. The prop is simply a small scrap piece of timber with a hole drilled nearer one end. When attached to the front panel of the toybox by means of a woodscrew and washers either side, it pivots to vertical under its own weight when the lid is open. **(Figure 7)** String lid stays should also be fitted to prevent the lid from falling backwards and tearing out the hinges.

Punch down all the nails, and fill with appropriately coloured wood putty. Sand all over, and our recommendations are that you finish either with a clear polyurethane or a high gloss paint.

Attachment of handles on both ends completes the job.