

**A**S in other sections of the Practical Woodworking competitions, the standard of entries for the Design a Toy Competition gets higher each year. A woodworking olympics so to speak.

After considering a number of possibilities for my entry I decided that the rocking horse was still a great favourite with children. However, the rocking horse does not have the criteria for learning (other than learning to breakfall well!) that I wanted to incorporate into the toy.

After numerous sketches of objects on rockers I started to develop an idea around a circular form, a drum into which could be inserted other circular toys.

What animal has a round body? My next door neighbour has a dog with these dimensions but it is not in common with the breed! A snail. This seemed a feasible idea!

I developed the theme and made initial sketches. After much thought I decided that I could make the mouth open and close, and the eyes pop up by use of the handgrips. The drum of the body could house circular, drum-shaped toys, the doors to the drum would take the shape of a clock and a colour chart and, having a tape of old fashioned organ music, I decided to add a tape recorder into the front of the body to make a 'musical snail'.

My first intention was to angle the sides of the body so that the sides would form the rockers but this caused complications with the drum, so I decided to make the rockers separately.

### The body

I started by cutting two body sides from 9mm birch ply. The hole for the drum was cut with a router. Strengthening battens were then glued to the inner sides of both body members.

The sides were then joined together by cross members, glued and screwed into position. To this assembly the top piece was glued and pinned into position. A piece of 3mm birch ply was glued and pinned to the bottom of the body and a piece to the top rear of the body completes this section of the assembly.

### The drum

Cut two drum sides to the dimensions shown on the plan. Cut eight cross members to size, and fix these as shown by gluing and pinning. When dry, fix the inner and outer skins of 3mm ply.

# Rocking Snail

*Terry Kelly designed this slow rocker with musical accompaniment and games as his entry in last year's Design a Toy Competition. The toy was donated to the Children's Cancer Ward at St Bartholomew's Hospital in London.*

### The drum doors

Cut three pieces (to the sizes shown on the plan) for each door and assemble as shown. Make the knuckle hinges as shown. Details of the interior clock and colour chart will be dealt with next month as will other games.

### Fitting drum into body

Before fitting the drum into the body, fix a piece of 12mm half round beading horizontally on the centre line on both sides of the inner side of the drum. These form guides for inserting and holding the 'drum toys'.

Smear glue on the battens on the inside of the body and insert the drum, wipe away excess glue.

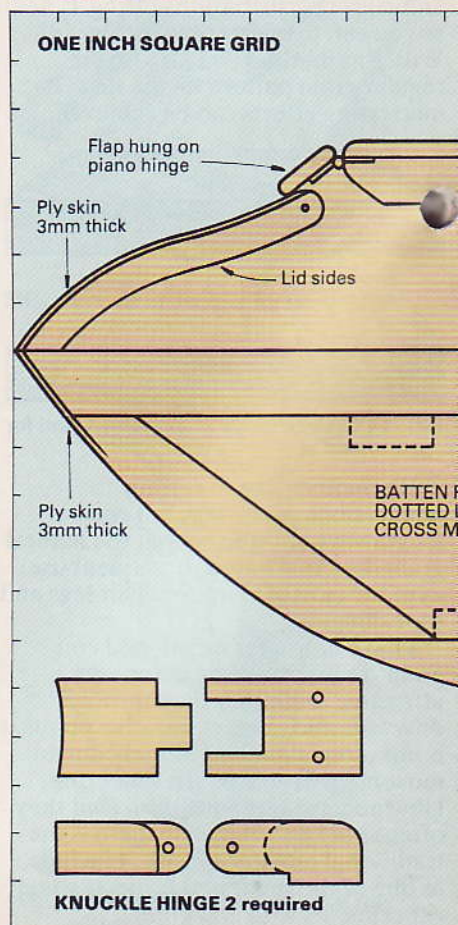
### The rocking frame

The rocker frame was made to follow the contour of the body. I used ash for the sides and joint pieces and turned mahogany for the end spacers. The dimensions and assembly instructions are shown in the drawings.

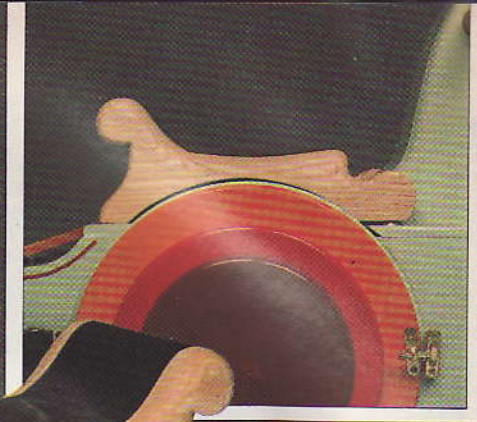
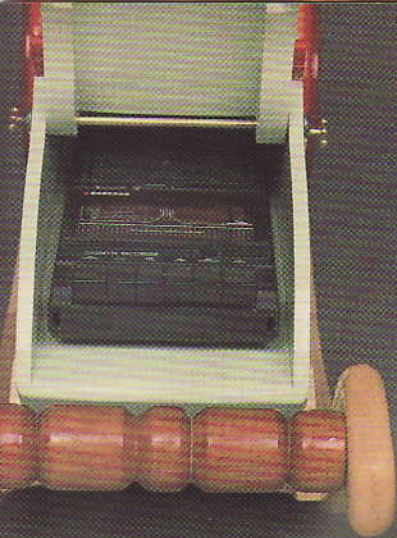
### Front compartment

The compartment at the front of the body was made to house the tape recorder. A shelf of 9mm birch ply was fitted onto the two horizontal battens and another piece of 9mm ply fitted to the vertical battens at the rear of the compartment to form an open box. This box then required a lid. Four pieces were cut using a template taken from the body sides. These were then glued together to form two sides, 18mm thick. The two sides were then screwed temporarily to the inner side of the body using one screw at the top of each side. The screws are removed at a later stage by pivoting the completed 'lid' upwards.

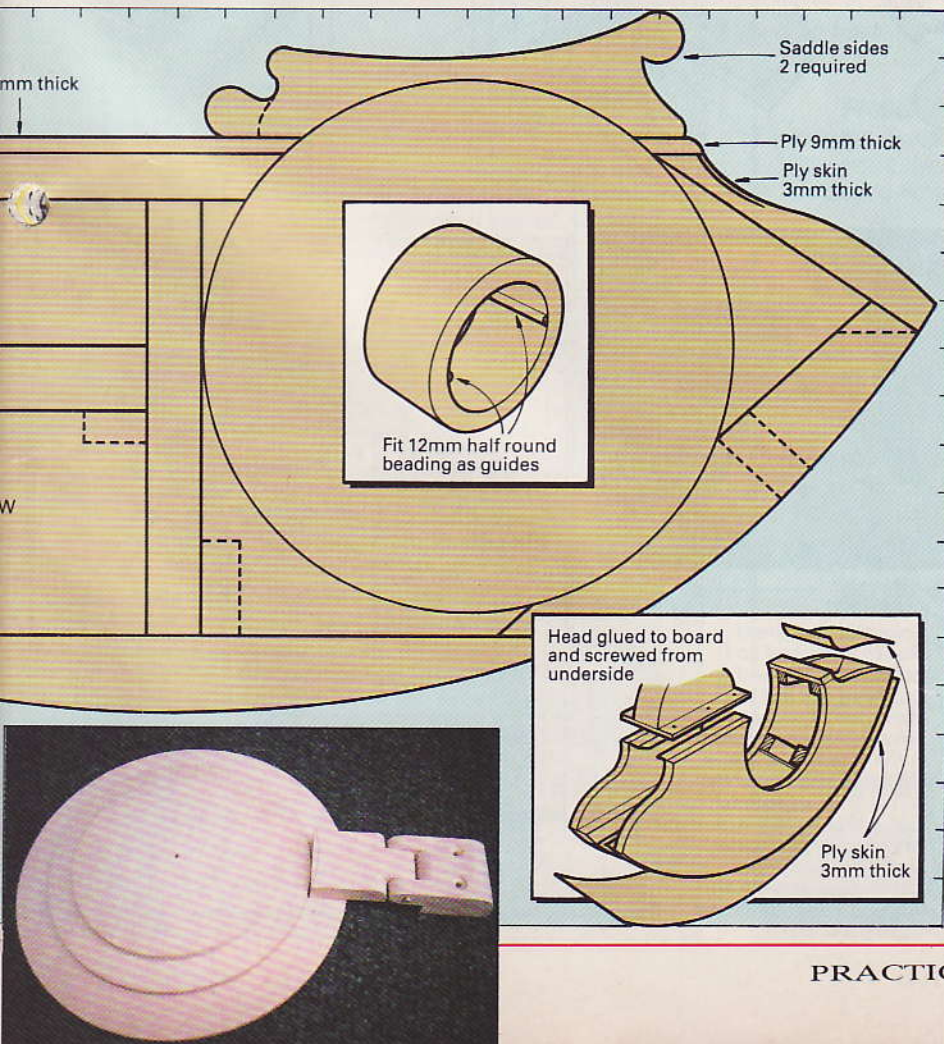
A piece of 3mm ply was then glued and pinned to these members to form a 'lid'. This is fitted at a later stage by passing a 6mm diameter brass rod through pre-drilled holes in the body and lid and secured by retaining caps.







The rocking snail is full of surprises with one compartment designed to house a tape recorder to play 'rock music', a posting box, and an assortment of games which can be stored within the 'shell'.



### The head

This was the most difficult part to design but relatively easy to make. Head and neck are made of three pieces, the centre section 100mm basswood (American lime) but laminated pine would be suitable, the two outer sides were cut from 9mm ply. A 30mm hole is drilled through the assembly to take the handgrips.

The two sides of the jaw are of 9mm ply. The lower part of the mouth is cut from basswood and is connected to the jaws by two brass roundhead screws, leaving a little clearance to allow for free movement.

The tongue is made up of three pieces of 9mm ply laminated together. The eyeball and stalk were turned from boxwood and a flat sanded on each ball to take the plastic eye. All this may see a little complicated and is difficult to explain in print but the exploded drawing should clarify the details. Some fiddling will be needed to obtain a smooth action of the moving parts which are operated by a quarter turn of the handgrips. Paint the jaws, lower mouth and tongue before assembly.

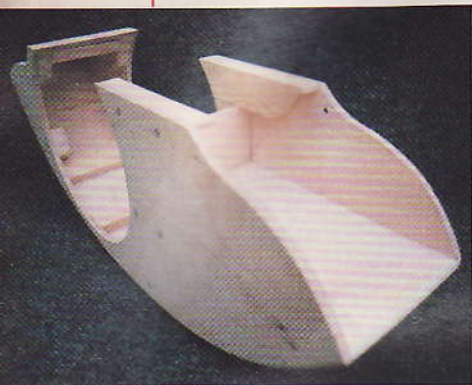
On completion, the head is glued and screwed from underneath to a piece of 9mm ply which is then screwed to the top front of the body.

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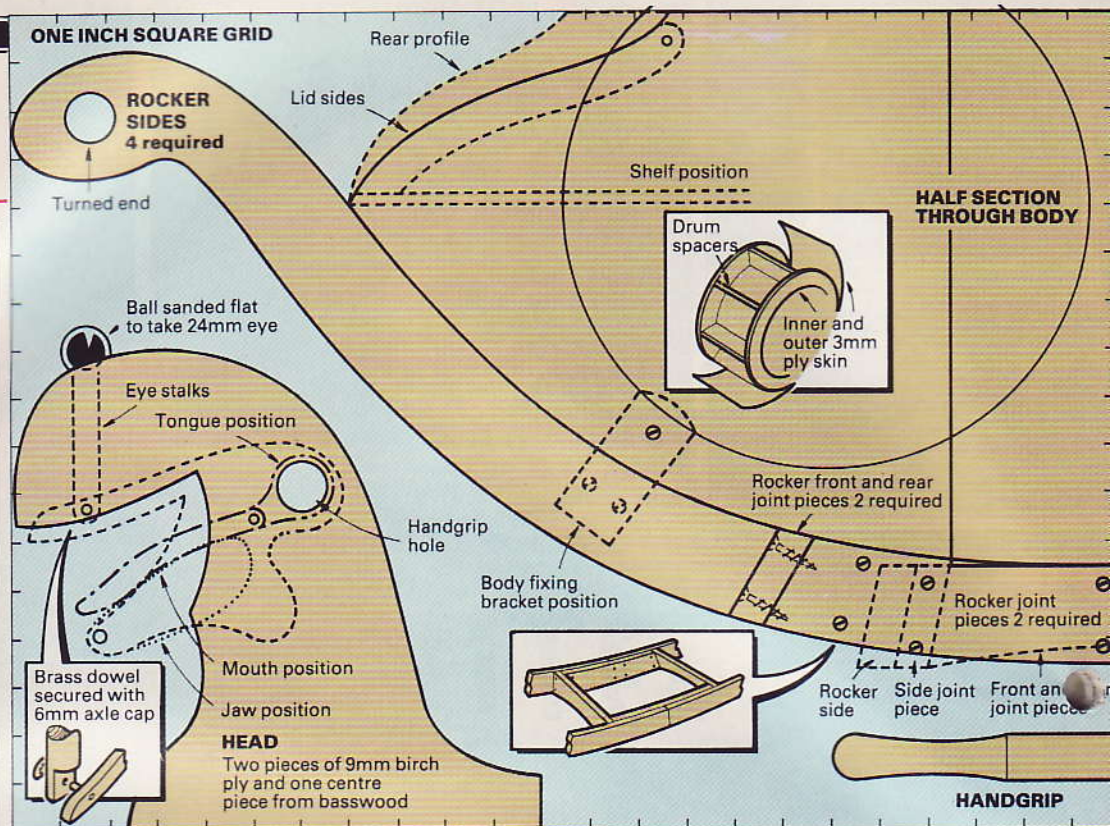


# Rocking Snail

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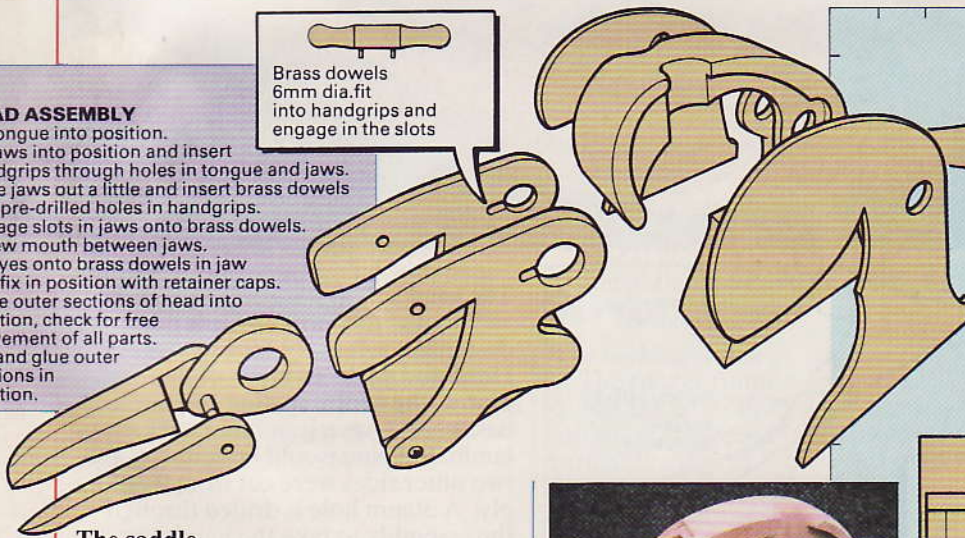
ONE INCH SQUARE GRID



## HEAD ASSEMBLY

Fit tongue into position.  
Fit jaws into position and insert handgrips through holes in tongue and jaws. Slide jaws out a little and insert brass dowels into pre-drilled holes in handgrips. Engage slots in jaws onto brass dowels. Screw mouth between jaws. Fit eyes onto brass dowels in jaw and fix in position with retainer caps. Place outer sections of head into position, check for free movement of all parts. Pin and glue outer sections in position.

Brass dowels 6mm dia. fit into handgrips and engage in the slots



## The saddle

This was constructed of three pieces. Two outer sections of ash and a centre piece of basswood. A template was taken off the body to get a snug fit for the underside of the saddle. The parts were cut and laminated and then shaped and sanded to a fine finish. The saddle is glued and screwed to the body at a later stage.

## Body fixing brackets

These I cut from 25mm ash. The brackets needed flats sanded on upper and lower faces to conform to the angle of the rocker sides. The brackets are screwed to the inner sides of the rocker. The body sits on the rocker frame and is fixed by screwing through the brackets and into the body.

## Next month

In the next issue I will look at some simple idea for toys to fit inside the drum.

## FINISHING

Colour adds a great deal to a toy and so I painted the ply body and head but left the mahogany spacers and ash rockers and saddle in their natural colours although protected by varnish. Do of course check that any paints you use are non-toxic, and remember that care in preparation and rubbing down between coats pays off.

ONE INCH SQUARE GRID FRONT VIEW

