

Let's stick together

Following Stuart King's recent article on Tunbridgeware, **David Springett** demonstrates how to make stickware blanks

Stuart King's article in *Woodturning* 157 whetted the appetite of many turners, describing and illustrating a stunning range of Tunbridge 'stickware' pieces. Here I will describe how to produce such blanks in the hope that many of you will use this form of decoration in the traditional manner, but also consider how it may be used in a more innovative way as an addition to more modern forms of turnery. Stickware is based upon three

shapes. The first is a diamond with parallel sides of equal length, the second a triangle which has an included angle of 45° and two equal-length sides and the third a square. It is also based around four angles, 45° , 60° , 67.5° and 90° .

The diamond when cut at 45° will produce a shape that fits together to create an eight-pointed star – see step 10. If the diamond is cut at 60° then six of these shapes can be joined to make a less interesting six-pointed star, but when three

different-coloured woods are used, these 60° diamonds may be fitted – obtuse angles together – to form the 'tumbling block' pattern. This can be seen in the top left of the photo above.

The triangle is cut at an angle of 67.5° . This produces an internal apex angle of 45° . Eight of these triangular sticks will fit together to form the core of a stick.

A description of cutting these triangles and gluing them into a stick will follow.

are stick infill is cut at 90°. The most important points to remember when cutting these shapes is that they are cut short grained – step 1. This will ensure that, when they are fitted and glued together to form a stick with the pattern running right through it like Blackpool rock, any slice cut from that stick will have a side-grain face showing. You will discover that if, by mistake, the pieces are cut so that the end grain shows, the resulting slices will be very difficult to finish – polish will be sucked into that exposed end grain.

Safety notice

Please note that, in the following step-by-step process, the safety guards have been removed from the circular saw – which was stationary during photography – to ensure the clarity of pictures. The guards must be in place at all times when cutting wood.

What you will need

To make these stickware 'sticks' you will need:

Several pieces of 6mm- (1/4in) thick and approximately 100mm- (4in) wide wood, preferably planed if not finely sawn, in a variety of colours or even laminated.

A fine-toothed blade set in a tablesaw or bandsaw. The table area around that blade must be quite close so that small pieces cannot be dragged down into any gap. Accurate adjustment of the table in relation to the saw blade is essential. If this is

not possible make an auxiliary angled table – to the chosen angle – in wood which may fitted to bandsaw or circular saw.

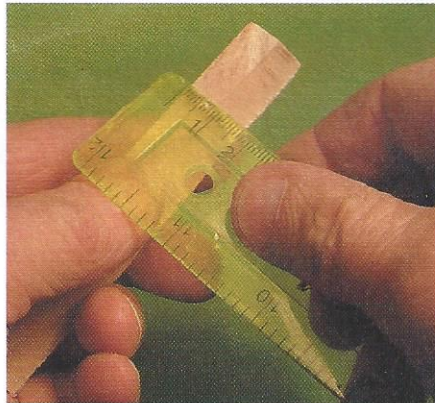
PVA white glue.

Strong elastic bands.

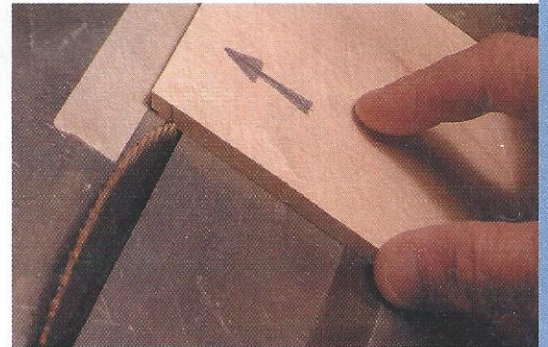
Cable ties.



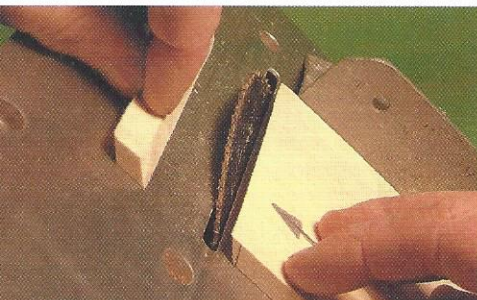
1 Set the saw table to 45° and cut the end from a 6mm- (1/4in) thick piece of pale wood. I have used sycamore (*Acer pseudoplatanus*) here. Note the grain direction so that short grain of the sticks is cut



2 Measure the freshly-cut face. In this case it is 9mm (1 1/2in), but measure your own piece to ensure accuracy



3 Set a marker, I used masking tape, the measured size of that cut face away from the saw blade. Push the wood up to that marker to begin the first cut



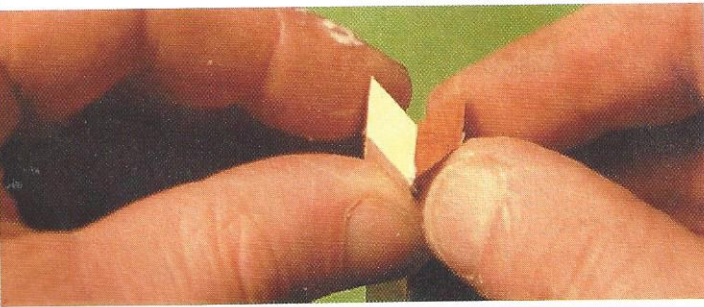
4 Take a slice from the wood. This will produce an equal-sided diamond shape which has two 45° acute angles and two 135° obtuse angles. Cut eight or more of these diamond slices



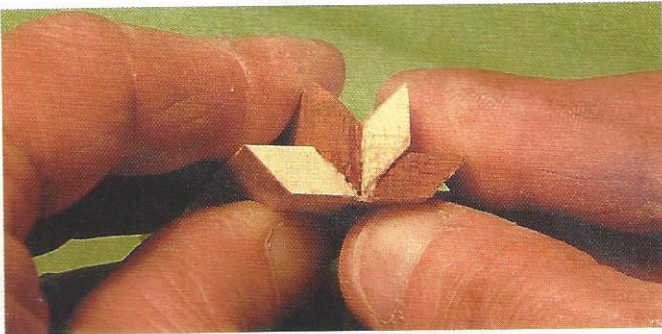
5 Clean off the 'feathers' from the edges using abrasive paper or a file, being careful not to blunt the angles



6 For the darker diamond shapes I have used 6mm- (1/4in) thick mahogany (*Swietenia macrophylla*). Cut eight or more of these diamond-shaped sticks. Clean up the edges as before



7 Hold a dark and a light diamond stick together so that you understand how they will fit. Now apply white PVA glue to the sides to be joined, rub the joint together and it should grip. Make sure that the points and edges match then lay it on one side



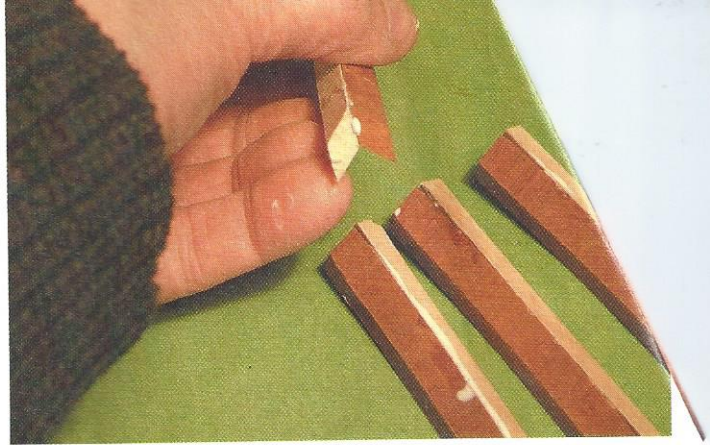
9 Now join two of the prepared parts to make half of the eight-pointed star. Rub the PVA glued joint and it will grip. Make sure that the corners and edges match and that the base is flat. Join the remaining two parts to make the second half



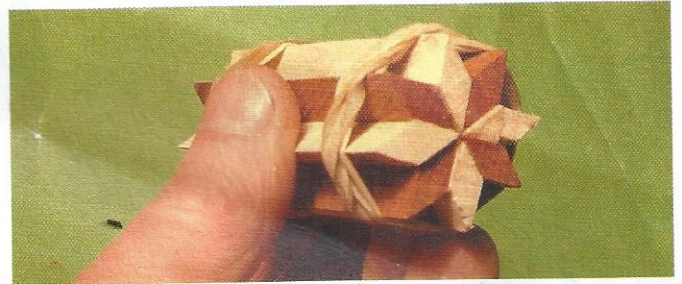
11 Clean the excess glue from the valleys between the joints, leaving the stick until the glue is set



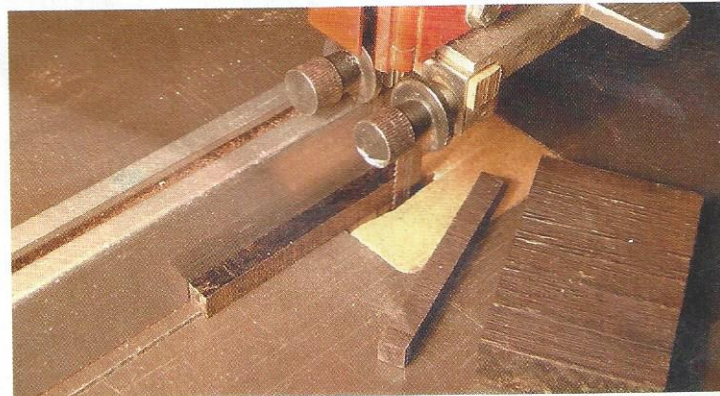
13 Clean up the feathering on the edges of the squares using a file or abrasive paper, but do blunt the edges of the squares



8 Be prepared to get glue everywhere, working quickly but steadily and using plenty of it. Make sure that the corners and edges match and make up a total of four part sticks. In the photograph you will notice that the joints have opened slightly. This was caused by the heat from the camera lighting. It was quickly remedied by pulling the joint together with a clothes peg



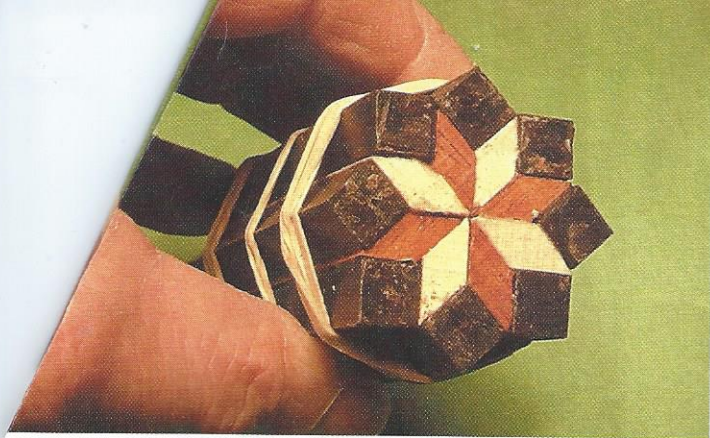
10 Fit the two halves together using plenty of PVA glue, rub the joint and bind the whole piece together using strong elastic bands as a clamping device. Make absolutely sure that the centre of the star is accurate. Check both ends



12 From African blackwood (*Dalbergia melanoxylon*) or a similar dark wood cut short-grained squares. The size of the squares is 9mm ($\frac{1}{32}$ in) – the same as the length of the side of the diamond. Choose woods that clearly contrast, do not be subtle otherwise the pattern will be lost



14 Loosely assemble the squares to check for fit then glue them into the valleys of the joined star, again using plenty of PVA glue. Rub the joints well to ensure a good grip



15 Use strong elastic bands to hold the squares in place while the glue sets. Clean off excess glue



17 Glue the parts together, holding them in place using strong elastic bands



19 Using light cuts, carefully turn the tailstock end of the piece. Wear a face shield – I have never had one of these pieces come apart while turning, but safety first. Note the cable ties around the piece for added security



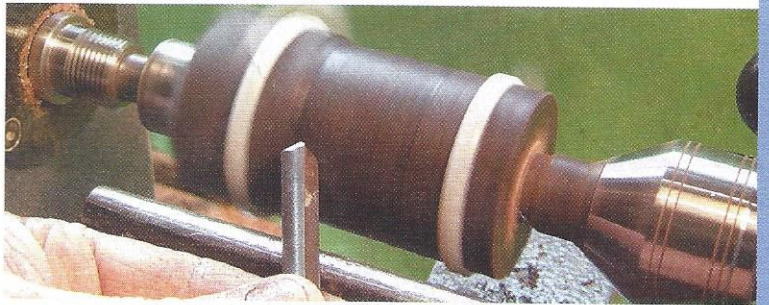
21 Having turned the middle section, the cable tie can be moved on to that turned area and the section closest to the headstock may be completed



16 Cut and prepare from 6mm- (1/4in) thick blackwood eight to 12 diamond-shaped sticks. Fit these around the outer edge in the valleys between the blackwood squares. Here they are loosely held in place to check for fit



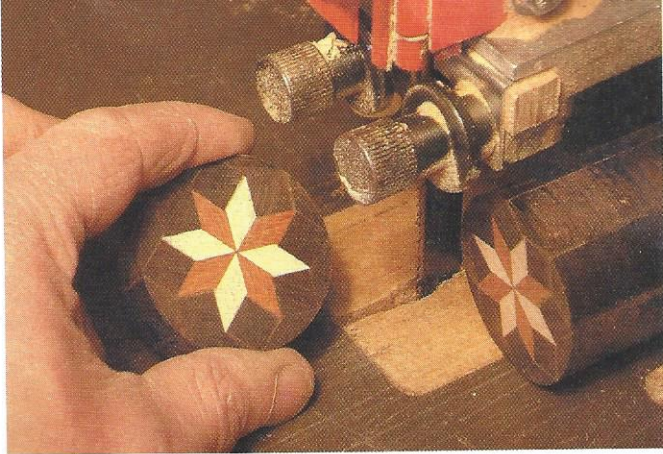
18 The piece will now look like a crude bundle of sticks but do not be dismayed for when cut, surprisingly, the joints will be fine. Set the piece accurately between centres, using a cup centre at the tailstock end and cable ties around the piece to prevent any possible breakout. Rotate the work by hand before switching the lathe on to make sure that nothing catches



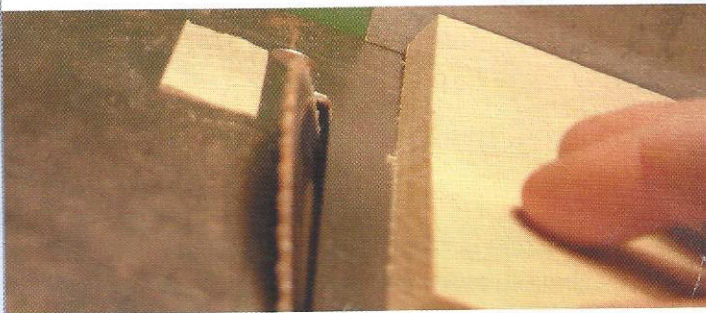
20 When you are satisfied that the piece is turned round at the tailstock end, switch off the lathe and move the cable ties onto that turned end. Next, carefully turn the middle section



22 The turning is complete



23 Remove the cable ties and take the piece to the bandsaw. Hold the turned part firmly and take a slice from the end. You will notice how accurately the joints have come together from what appeared to be a rather crude bundle of sticks. The slice is ready to fit into a recess of a box lid, or any other piece, and maybe turned and finished as any other piece of wood



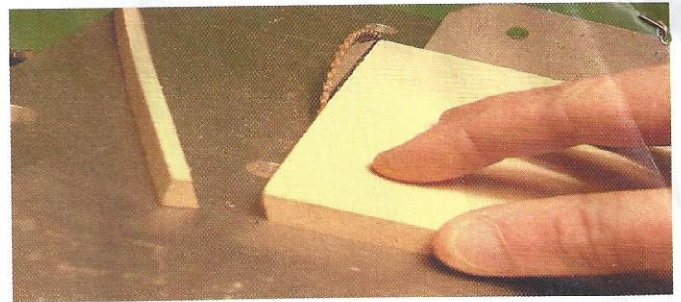
25 Flip the sycamore on its back and take a slice so that the cut produced is a triangle using the full thickness of the wood. The base may be measured and that distance is marked away from the saw blade. Masking tape is used here as the mark



27 Laminated wood can be cut in the same way to produce triangles. These laminations are made from veneers, but remember it is still necessary to cut short-grained sticks



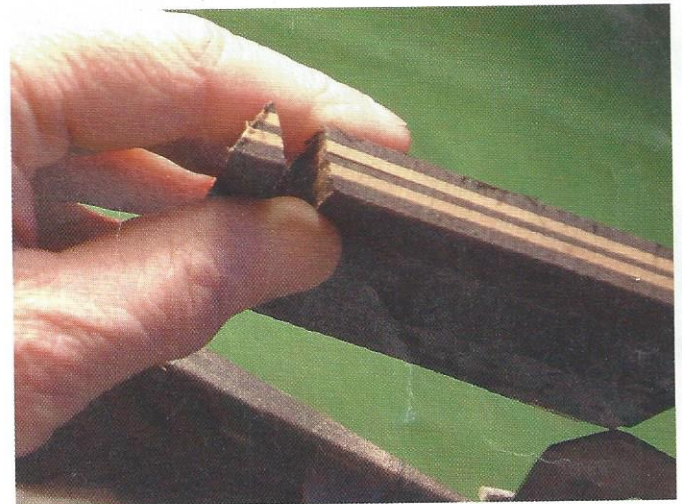
29 The sample shown here is to demonstrate the method of gluing laminated triangles, or plain triangles, to form the centre of a stick. Smaller triangles may be glued around the outer edge. Remember when you are using triangular sticks they will be 100mm (4in) long so that slices may be cut from them when they are finished



24 Now for cutting triangles. Set the table/blade angle to 67.5°. Using 12mm- (1/2in) thick sycamore, cut an angled slice from the end, ensuring it is short grained as before



26 Continue to cut triangles, each time a triangle is cut the sycamore is flipped over in preparation for the next cut



28 These laminated triangles will produce more interesting patterns at the centre of the stick



30 Take heart, look at the mastery of technique and finesse shown in these antique pieces and remember that, in the 19th century, they did not have your advantage, power tools ■