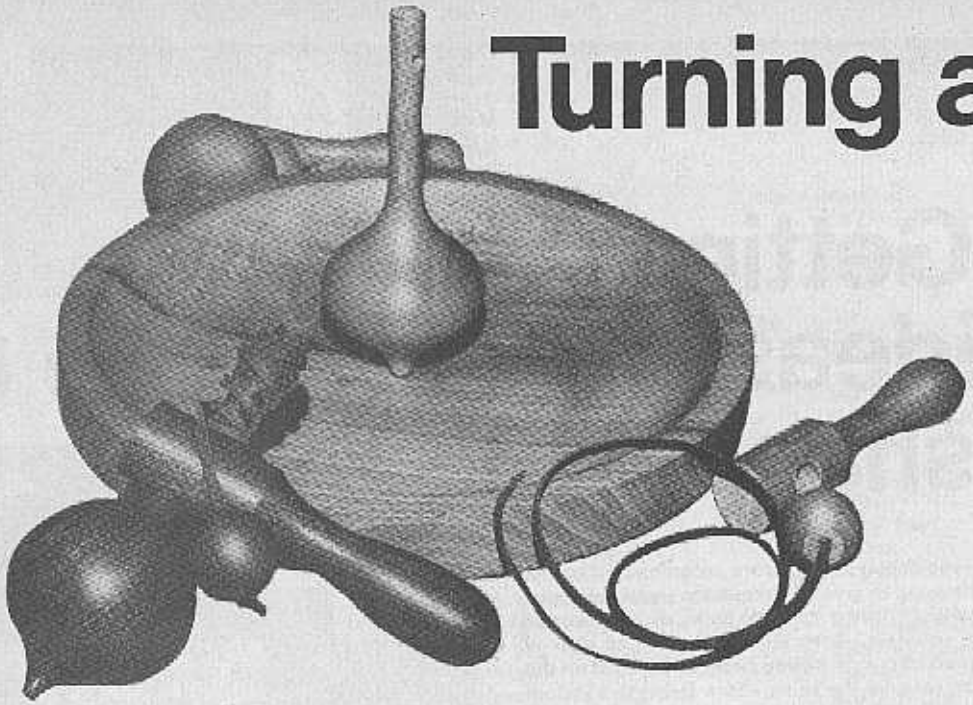
Turning a spinner



Wooden toys have a warm and friendly quality that their metal equivalents seldom equal. In this project David Elford takes us through the steps in producing one of the oldest and most durable of these traditional and delightful playthings.

ONE OF THE MOST POPULAR and well-proven toys of all time is undoubtably the spinning top. The ancient Egyptians made them from pottery, the Romans from bone, and in one form or another they have been cast, spun and whipped down the centuries ever since, and still they give as much fun and fascination as they ever did.

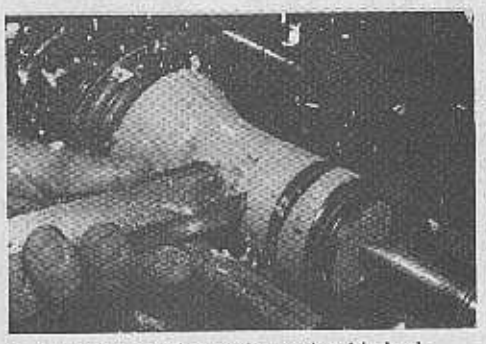
The turning described in this project is quite straightforward and the finished object performs well and is very easy to use. Given a good tug it will spin on a smooth, hard surface for several minutes. The complete top, which consists of three separate turned parts plus a length of leather thonging, is best turned between centres in two stages. I did try to accomplish the project using a woodscrew chuck, but the problems were many, and the advantages few.

As with all turning projects the choice of timber is important both practically and aesthetically. I used a piece of old oak table leg for the top illustrated as you can see from photo 1, but in the past have made them from yew, ash, cherry, plum and many other timbers. But whichever wood you use make sure it is hard, reasonably heavy, and above all attractive so that the end result is an object of natural beauty as well as a toy.

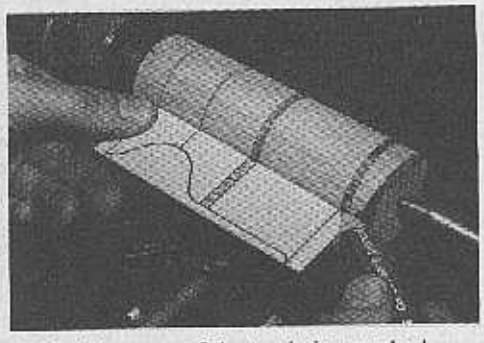
The finished length of the top is 4in. with a maximum diameter of 1¼in., the handle 3½ by ¾in., and the ball ¾in. diameter. Handle and ball are turned from the same piece of stock. The larger blank should be about 5in. long by 1¾in. square, and the smaller 5¼in. long by 1in. square.

Prepare the blanks for turning between centres then drill a hole to a depth of 1in. in the tailstock end of the smaller blank. This is to be the hole through the centre of the ball so should be of sufficient bore to accommodate a piece of leather thonging; ⅛in. may well do quite nicely.

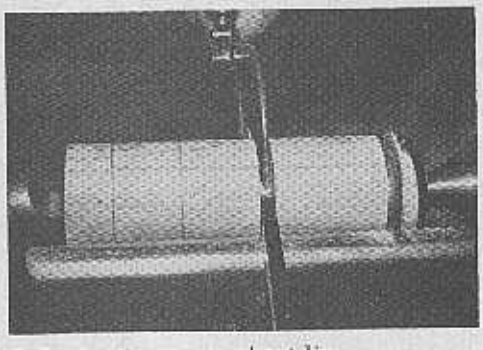
And so to the turning. Rough down the larger blank to a cylinder slightly over the finished maximum diameter (photo 1), then mark the essential features of the design (photo 2). The maximum diameter should be about 1in. in (or up) from the tip—it is important to have a low centre of gravity or the top will not perform well. Part the stem in two places to a little over the finished diameter of $\frac{5}{16}$in. (photo 3), then with a ⅛in. or ½in. spindle gouge cut away the waste (photo 4). You will find the easiest way to do this will be to cut in both directions (not at the same time!). Having created a cylindrical stem the next stage is to form the bulbous part of the top and merge it



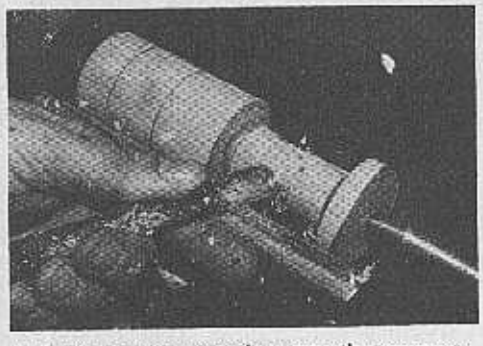
1. Roughing out (part of an oak table leg).



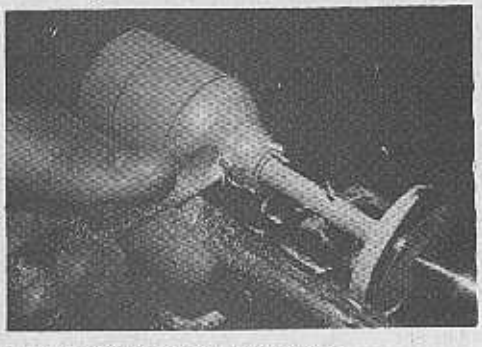
2. Main features of the top being marked.



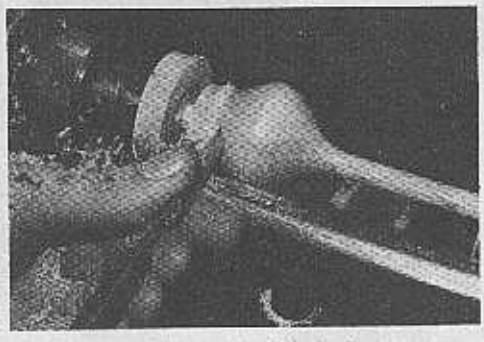
3. Parting the stem to about ⅜in.



4. Cutting away waste between the grooves.



5. Merging the stem and the bulb.



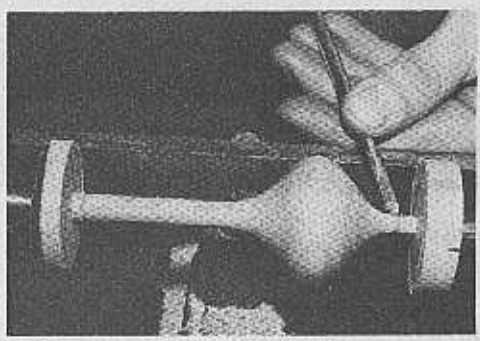
6. Cutting the other half of the bulb.

into the stem. Starting from a little to the right of the line marking maximum diameter of finished top start to form this shape, which involves swinging the gouge nicely and evenly from a bead form into a gentle cove (photo 5). When this is completed to your satisfaction the business end of the top can be tackled. To the left of the remaining pencil line part down to about $\frac{5}{16}$in. then form the bottom part of the top with the spindle gouge (photo 6). The shape, and hence hand movement, is much the same as for the other side of the top (except of course in reverse). Having completed this shape you may find it necessary to re-mark the pencil lines indicating the length of the top, as the original ones will have been cut away. The next thing is to round over the tip either with a small spindle gouge (photo 7), or a skew chisel, but be careful to leave enough wood at the tip to deter it from prematurely parting company with the waste. This part of the top is now ready for sanding and finishing. The illustrated top received no more than a couple of coats of cellulose sanding sealer, burnished dry with a palmful of shavings (photo 8), although you may prefer something in addition, such as wax or friction polish. The top can now be parted off (photo 9) and the ends cleaned up. The tip is best finished off by hand sanding. Depending on the hardness of the timber used, it may be advisable to fit a metal tip for longevity; a small dome headed nail is rather suitable, but make sure it goes in centrally. If you decide to have a wooden tip (which will last a good while and can always be re-shaped with sandpaper) it's best to get it looking good with abrasive paper (not too pointed, not too flat), then spin the top with your fingers to test the tip. This can be repeated until the top works perfectly.

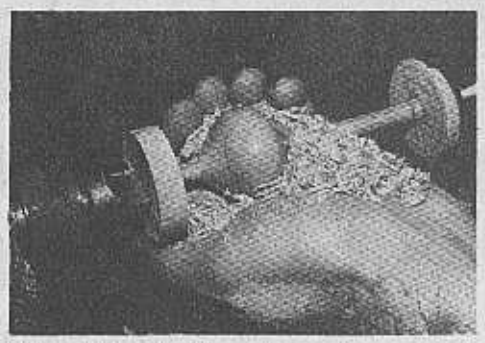
Now for the handle and ball. Mount the other piece of stuff between centres (with 1in. deep hole at the tailstock end) and rough it into a cylinder just over $\frac{1}{2}$in. diameter. Mark the main features (photo 10) then part the cove in the handle to about $\frac{7}{16}$in., and either side of the ball to about $\frac{1}{4}$in. I used a $\frac{1}{2}$in. skew chisel to form the ball (photo 11), but you may find it easier to use a small spindle gouge. Balls tend to be the most difficult turned shapes to master, and when making one I find it helps to bear in mind the regularity of the curve, and hence the uniformity of tool handle movement.

Having made the ball (or at least some approximation of a ball) nick the start of the cove with the point of a skew chisel (photo 12), then form one half of the cove with a small spindle gouge (photo 13). Round over the "handle" part of the handle and in the same cut form the other half of the cove (photo 14)—altogether a kind of over and under movement. To the left of the handle part down to about $\frac{1}{4}$in. then round over the handle end (photo 15). With a skew chisel plane the cylindrical part of the handle smooth and parallel (photo 16). Sand and finish, then separate handle from ball and clean up the ends. Drill a hole through the cylindrical part of the handle ($\frac{3}{8}$in. gives enough clearance), then another one near the top of the stem (for leather thonging), and the project is almost complete. All that remains to be done is to pass a length of leather thonging, knotted at one end, through the ball. Leather is more suitable than string or cord because it doesn't fray. A good length is about 18in. If you don't have any thonging you could cut your own (surprisingly easy with a razor knife and a steel rule), or maybe buy a pair of leather boot laces.

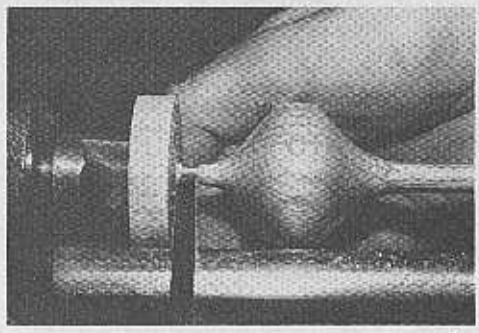
So now you have a spinning top. Good luck!



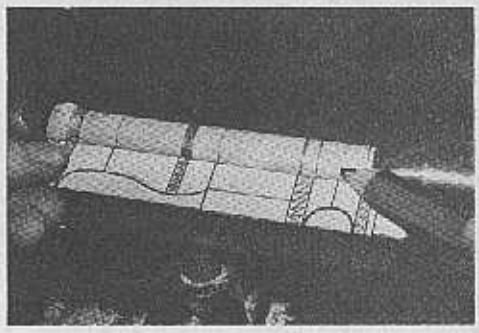
7. Rounding over the tip with $\frac{1}{4}$in. gouge.



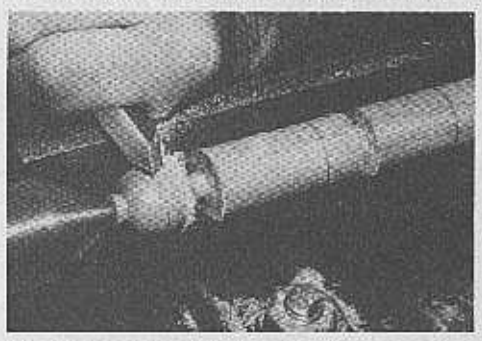
8. Burnishing dry the sanding sealer.



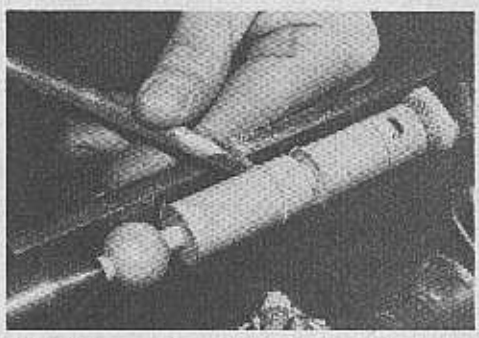
9. Parting through. (Hand ready to catch it.)



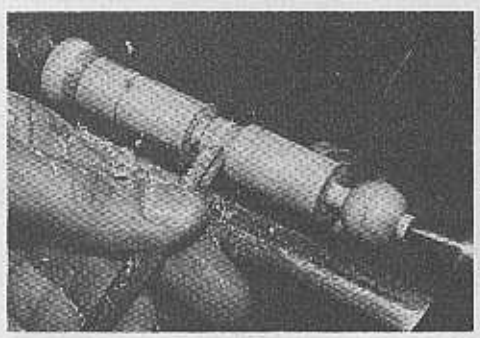
10. Marking the features of handle and ball.



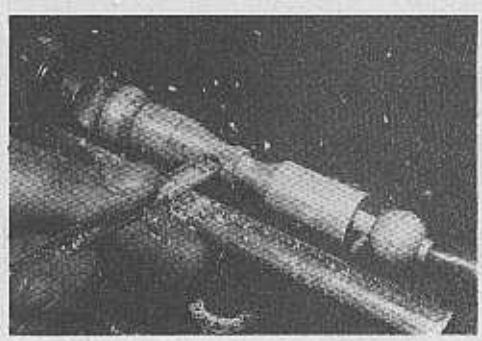
11. Cutting ball with skew chisel.



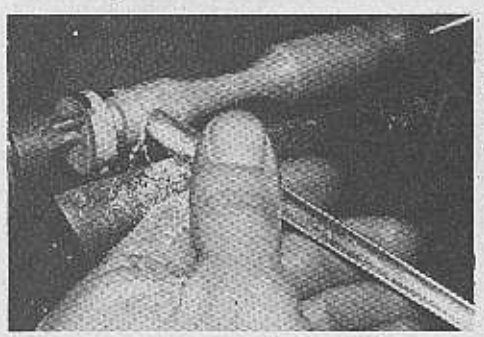
12. Making a nick with the skew chisel.



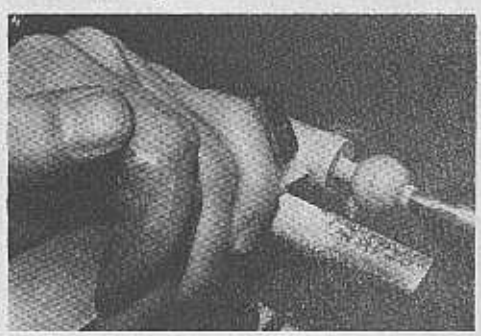
13. Cutting a half cove from the chisel nick.



14. Completing the cove.



15. Rounding over end of handle.



16. Planing cylindrical part of the handle.