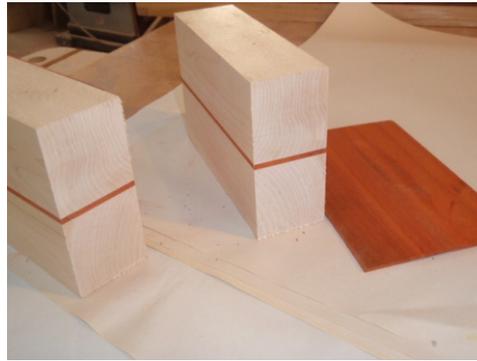


Christmas Ornament Turning



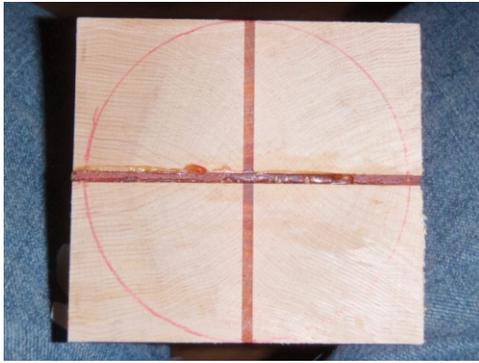
Preparing the turning blank



First, cut the stock 2" X 2" X 12" and square up using a jointer and planer. If the blank is not prepared perfectly, the stripes will not be in the center of the globe legs. Glue a 1/8" X 2" piece of contrasting wood between the 2" X 2" boards. When dry, cut the 12" pieces into two 6" pieces. They will be glued together with another contrasting piece in the middle.



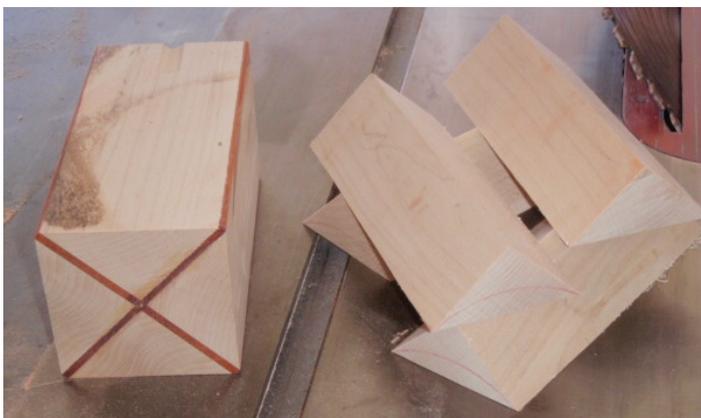
Now glue another piece of veneer between the 6" pieces. Check the end of the block to make sure the cross is square and perfectly aligned. Use plenty of clamps to keep everything aligned. You will now end up with a 4" X 4" X 6" blank



Draw a circle on the end of the block when the glue is dry using the center of the cross of contrasting wood for your compass point. You can see that the circle touches the edges of the blank on the top and the bottom (original machined surfaces) and is in from the sides. I now use a table saw to cut the blank to size creeping up on the circle. This gives a perfectly square blank with the contrasting lines dead center.



I use a tilt gauge to set my table saw blade to a 45° angle. The edges of the blank are each cut from contrasting liner to liner.



You end up with a blank and 4 pieces of cut off triangles. Do not discard these. They will be glued up later with contrasting wood to make another slightly smaller ornament blank.

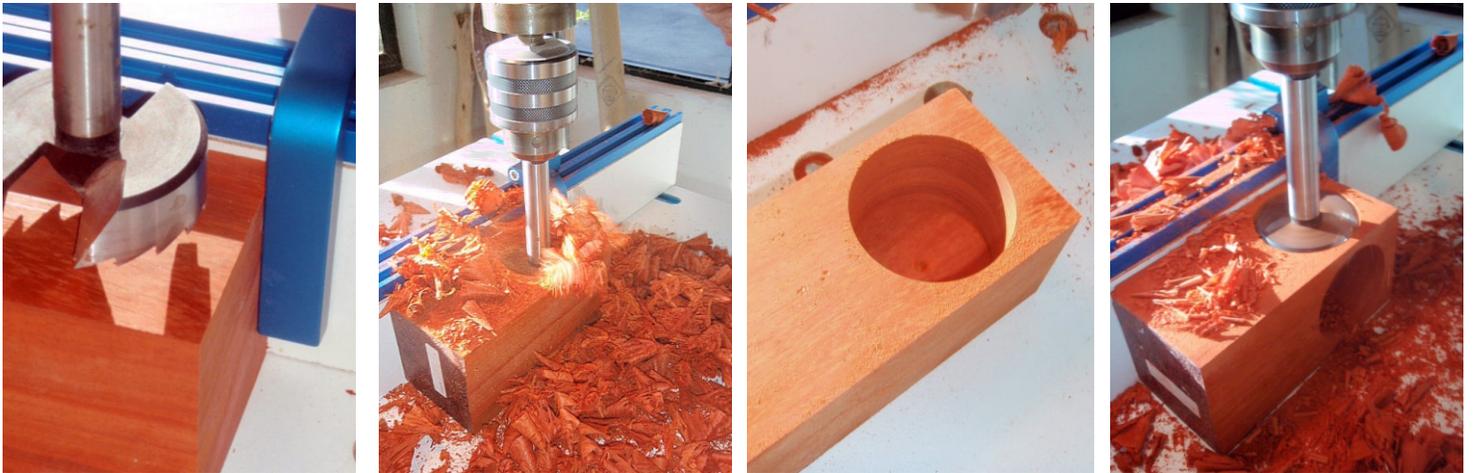
Drilling the turning blank



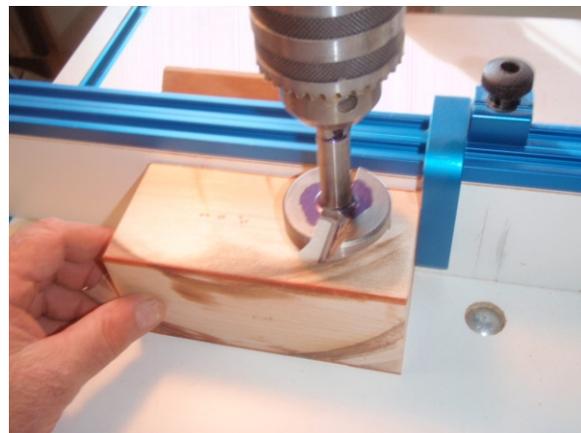
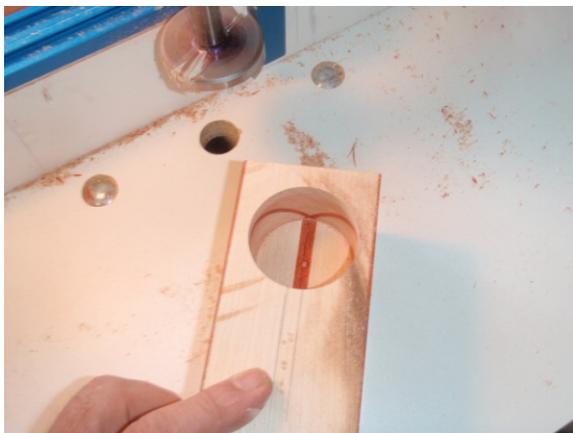
My drill press has a table with adjustable fence and stop to align the blank under the bit. This can also be done by clamping fences and stop blocks to the table. I converted my drill press to a 3/4 HP motor due to the large size forstner bits that I use. Smaller motors work but are very slow.



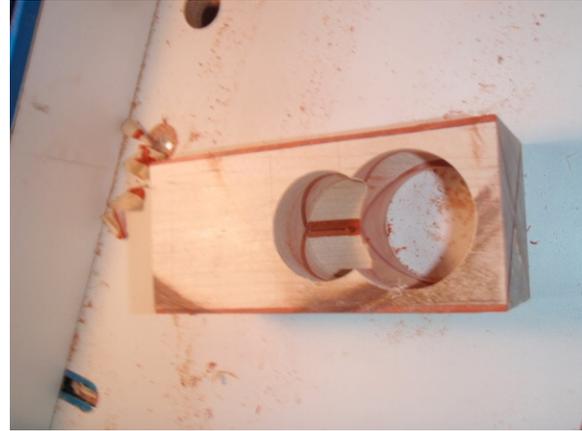
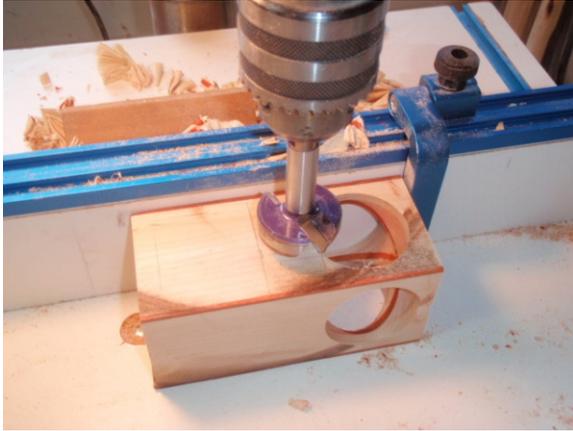
In these photos I am using a 3" X 3" padauk blank with a 2 1/2" forstner bit. Place the bit against and tap the blank with the bit leaving a small dent. Flit the board around and tap it again. The second photo shows the marks that do not line up. Adjust the fence and repeat until the two dimples make one mark. This assures that you are drilling in the EXACT center. If your blank was prepared properly, rotation of the blank under the bit always achieves the same results, a dead center hole.



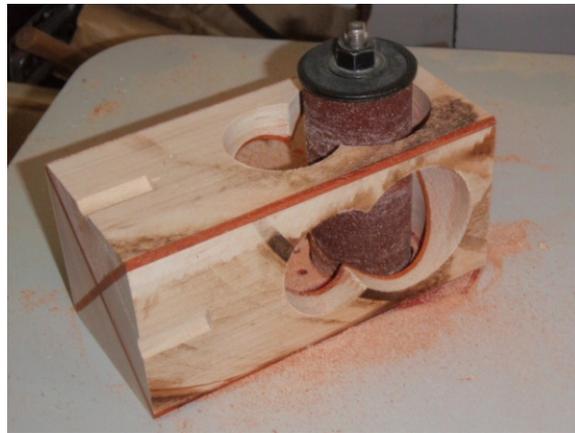
Set the stop at about 3/8" from the edge of the blank. This will be the bottom of the ornament. You can use a smaller spacing depending of the desired look. Drill into the blank to about half way. Do not drill all the way through as this will cause tear out on the opposite side. Rotate the block and drill through from the opposite side. If everything is done properly at this point, the holes will line up perfectly. It shouldn't show any more that a fine line where the two holes meet. These will be removed with the cross drilled hole. Now rotate the blank 90° and repeat the drilling process. The final blank will be drilled in from all four sides and is finally ready for the lathe.



Drilling a blank with multiple holes uses all of the same methods up to this point. Set the stops and drill down from each side for the lower hole.



The difference here is to move the stop block over the desired distance and drill down from all sides again. Use fairly light pressure on the second hole as the forstner bit tends to want to tear out the intersections of the holes. A little care here goes a long way.



Here you can see the completed two hole blank. In this case the lower hole is 2 1/8" diameter and the upper hole is 1 3/4". The total height of the opening is 3 1/2". After the holes are drilled, I sand the inside of the holes with a oscillating spindle sander. This two hole blank is ready for the lathe.

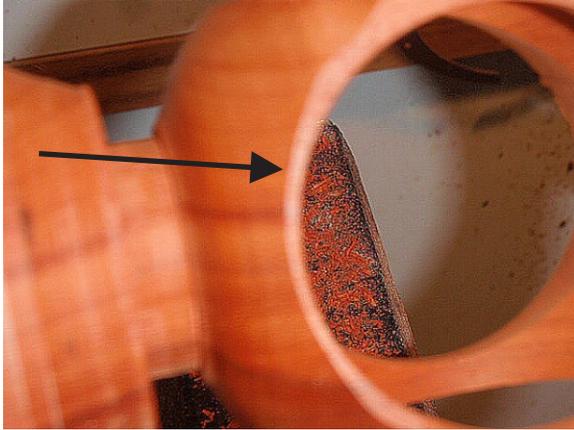
Turning the ornament



The top of the ornament is mounted in a chuck and a 1/4" hole drilled to just short of entry into the globe. Note the stop collar for control. Tailstock is brought up for stability and the bottom is turned round and a tenon is turned into the end.



Now mount the bottom tenon in the chuck and drill a 1/4" hole in the top without penetrating into the globe. Place the live center into the hole and begin turning. Work the bottom first, leaving a slight flat area for the finial to mount to later. Mine are usually about 3/4" on an ornament this size.

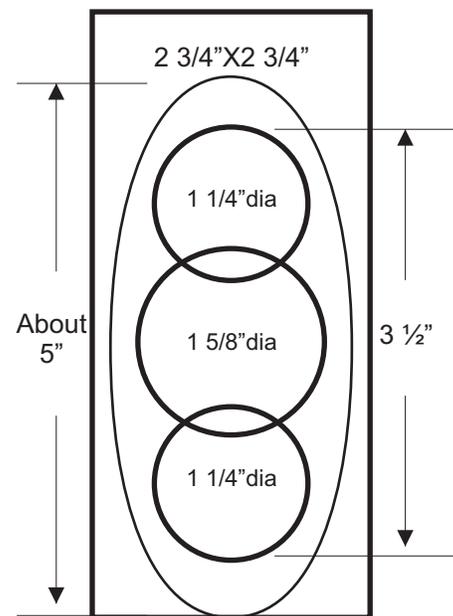
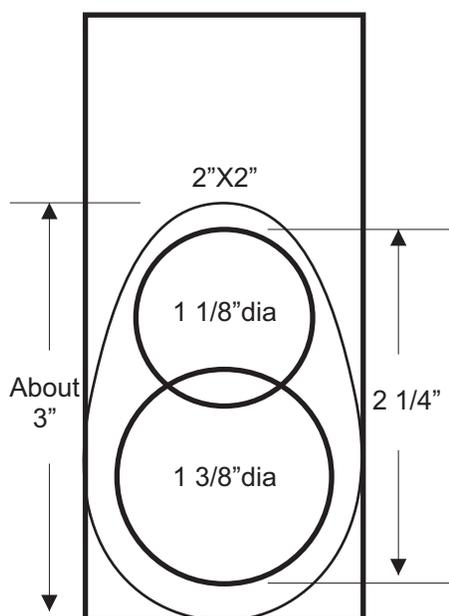
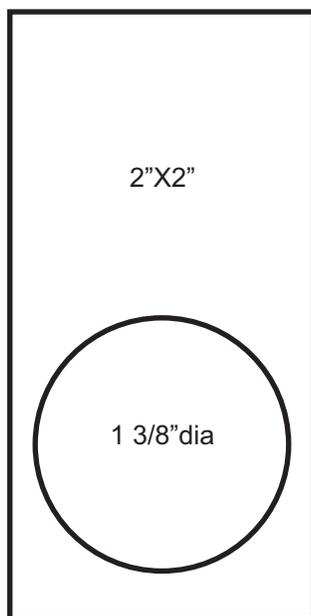
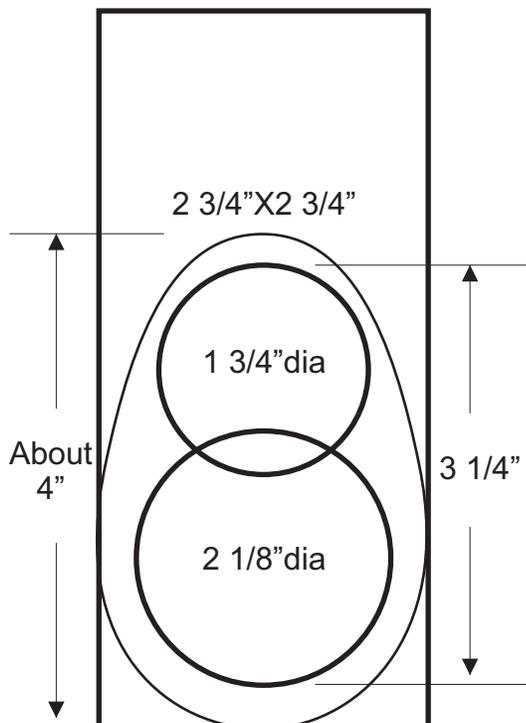
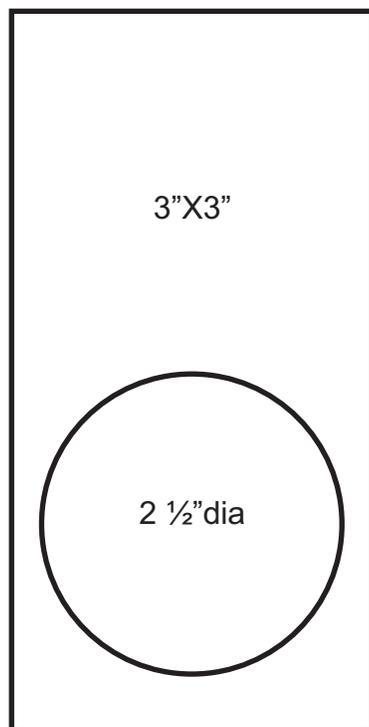


Use a parting tool to cut a slot about 3/8" from the hole. This will denote the top of the globe. Now turn the globe down to the desired thickness and shape. Stop frequently and check the area around the drilled holes. In the photo on the left, you can see a slight flat area around the hole where the ornament is not turned enough. If you stop turning right at the hole, the globe will be round. If you go beyond at the top or bottom, the globe will be oval. If you go beyond at the middle of the legs there is a real danger of going through and the globe can explode. If you just have a small amount of wood to remove around the middle, coarse sandpaper does wonders. I find it much easier to control in the fine middle areas.



Finish any turning and sanding and part the globe off leaving a small flat area for the top cap to be fitted. I try to make it about the same size as the flat area as on the bottom. You should note that I refer to the top and the bottom. On a single hole ornament it makes no difference. On a multiple hole ornament with different size holes, the ornament is egg shaped and there is a definite top and bottom.

Suggested dimensions



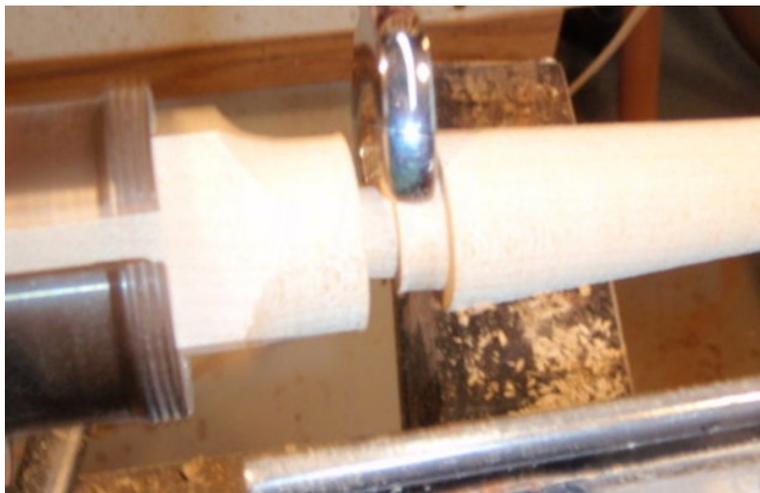
Turning the finials



For the finials, I start with a 1" square about 8" long. This is usually enough to make the finial and the cap.

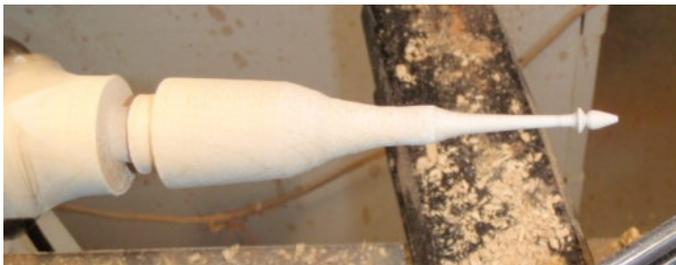


I turn the blank to a rough taper and measure for length. Above I am using a Fibonacci gauge to determine the length. Below I am turning the top to a 3/4" diameter to fit the same size as the flat on the turned globe..





I start with turning just the tip. The fence is moved back from the workpiece and lowered to fit in the palm of my hand. I wear a glove as the index finger is used to steady the finial as it spins. After the tip is cut in, I turn about an inch and a half. This is sanded to a finish grit before I turn down any of the rest of the finial. This area is done and does not have to be addressed again.



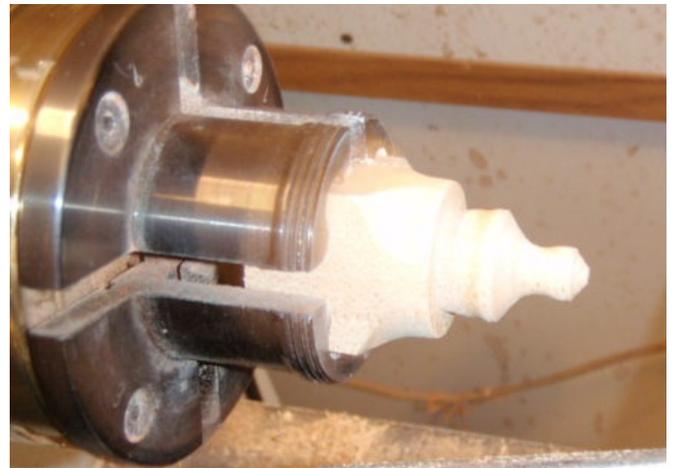
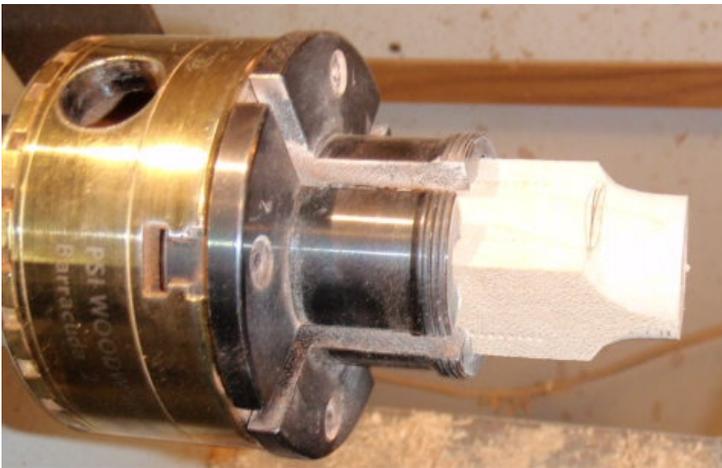
Next I turn just past the area where I plan for a midway feature. I usually turn a small sphere just for looks.



The sphere is turned and then the area is sanded to finish grit the same as the end and it need no more attention. Now we just have the fattest 1/3 of the finial to work on. I usually turn the top of the finial to a green onion shape. I place it on top of a pedestal or two. I try for a little shape so it isn't totally bland but not so fancy that it wants to be the focal point of the ornament. The gist of my ornaments is what is mounted inside the globe.



Part the finial from the base leaving a 1/4" tenon. The remainder of the stock will be remounted in the chuck and turned down for the cap of the ornament.



Turn the cap to a desired shape, again, not too fancy. Its just there to work as a mount for the ornament. Use the live center from the tail stock to mark the center and mount an eye for hanging.



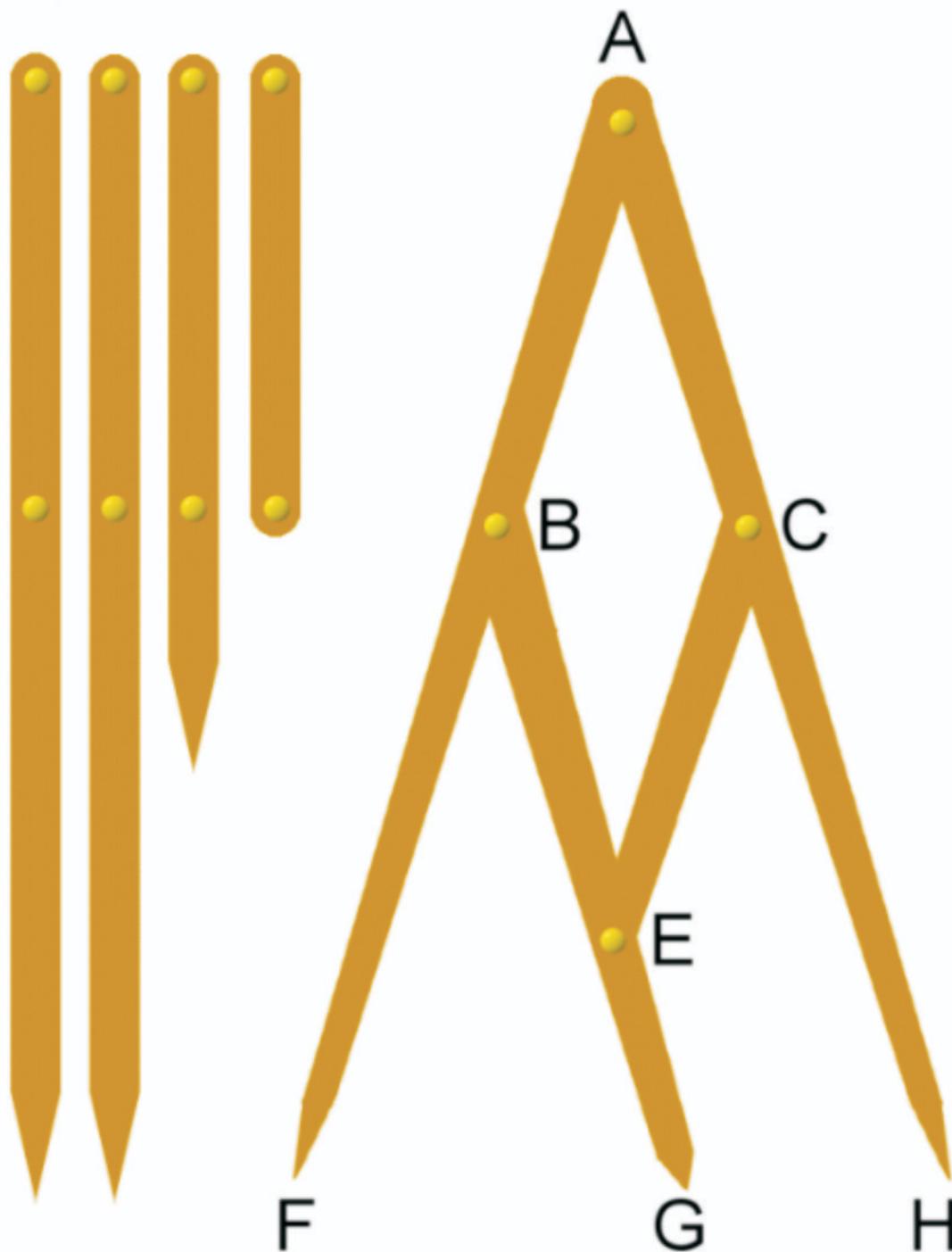
Golden Section Gauge

$AF = AH = 340\text{mm}$

$BG = 210\text{mm}$

$AB = AC = BE = CE = 130\text{mm}$

$EG = 80\text{mm}$



Samples and ideas

