



## **Wisconsin Woodworkers' Guild**

### **Workshop Notes Glen Huey, Pennsylvania Spice Box September 10, 2005**

Notes from the Saturday workshop held in Scott Stanwyck's shop:

- About 20 WWG members met at Scott Stanwyck's shop (barn) for a demonstration of stringing and inlay techniques.
- Glen Huey is a self-taught woodworker from Middletown, Ohio – near Cincinnati. He now works alone. He has a 4,000 square foot shop with separate areas for storage, work, and finishing. He has written for the Popular Woodworking magazine for several years (the spice box article appeared in two separate issues in 2002). He has published two books and several DVD's. He can be contacted at:  
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- A "spice box" is a smaller object that mimics the casework of much larger pieces of furniture. Spice boxes involve a number of small drawers in a carcass and were originally used to hold spices. The design evolved to the point that a spice box was often exhibited in the parlor of a fine home rather than in the kitchen. Spice boxes differ over time and geography – the details of the design and the types of wood used differ in differing locations at differing times. Spice boxes may contain secret compartments and other indications of finer construction. The specific topic of this workshop was the use of inlay and stringing to adorn the door of a spice box.
- Authentic original spice boxes are currently priced in the \$30k -- \$50k range at auction. Glen suggests there is a rough 10% rule of thumb for reproductions – he prices his reproduction spice boxes in the \$2k to \$5k range. It takes him about 4 days to complete the inlay for the door of a spice box.
- A spice box may or may not have a fancy door. Glen showed two boxes at our meeting, identical except for the doors.
- The design of the patterns for the fancy door involved several separate components:
  - A square or rectangular band around and inside the perimeter of the door
  - A circular band inside the perimeter band
  - Various stringing, each in the form of an arc formed as a portion of a circle

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- Various "berries", each formed in clusters of three differing wood species
- A door to be inlaid should be cut oversized, inlaid, and then fit to the box. Glen allows an extra 1 ½ inches on each of the four sides. He uses screws or clamps to hold his door blank to the fabrication jig – he feels double-sided tape will allow small movements that will detract from the final accuracy needed.
- Glen uses a ¾" top-bearing "pattern bit" in his small trim router to cut the initial band around the inside perimeter of the door. The depth of the groove or slot cut in the door is about 3/32". The materials placed in the slot (inlay or stringing) are a bit thicker or "heavier". The idea is to finally sand the inlay down to the door – avoid sanding the (larger) door down to meet the inlay.
- Glen reminds us to pay attention to the actual dimension of the router bits – some bits sold to match the nominal thickness of commercial plywood may be slightly undersized. Not all ¾" bits are the same size.
- Also, note the rotation of the bit in the common plunge router results in a clockwise pattern for cutting around the inside of the router jig.
  
- The first milestone in this process is the creation of the ¾" wide banding around the inside perimeter of the door.
- He created a jig specifically to aid in the cutting of the band. He used two scraps of plywood from which is cut a "hollow rectangle" that serves as the router guide. The plywood jig was screwed to the oversized portion of the door. The dimensions all depend on the specifics of the project. Glen fabricated each of the four sides of the router guide using the fence on a table saw and carefully raising the blade through the plywood each time. The inside dimension of the jig supports the bearing of the pattern bit while the router is making the desired band around the perimeter of the door. The outer dimension of the router guide is about 1" or 2" wider – in other words, the plywood might be 15 x 18 with a 13 x 13 hole for a door that is 14 x 17 and a ¾" bit.
- Most spice box inlay designs are symmetrical within a square, so the jig has a rectangular outside (to match the door) and a square inside (to support the design). Glen was distracted and created a rectangle within a rectangle, which resulted in an asymmetrical final pattern.
  
- The second milestone is the creation of the 1" wide banding that is inside the rectangular band. (This banding is a form of inlay). Note the eye seems to consider the ¾" outside rectilinear band equal to the 1" internal circular band.
- He located the center of the outside band by connecting opposite corners. He drilled a 3/16" diameter hole, which will later be covered

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by inlay as part of the final pattern. Glen then made the cut using a long flat base for the router and a 3/16" diameter dowel. Note Glen used two differing mounting points on the extended router base (resulting in two differing radii for the cut) so he could create a 1" wide groove with two passes of the 3/4" bit.

- Glen prefers a plunge router for these operations, although he used a standard trim router in his demonstrations. As a side benefit, he illustrated the distractions caused by intermittent electrical connections in equipment used to do close work.
- He feels it is not necessary to clean up the burrs resulting on the circular or rectilinear bands as they will be addressed when the banding is installed.
  
- The third major step in preparing the door blank is to create the grooves for the stringing. Glen used two different templates made from 1/4" MDF and Baltic birch plywood to guide the router in these cuts.
  - He registered one set of templates to lines that were extended from the inside and outside of the outside band.
  - He registered the other set of templates to groove cut by the first templates and the radius of the circular band.
- The specific shape of the templates is the result of a lot of experimentation (or trial and error). Suggestions on developing our own templates included obtaining good photographs or drawings of antiques, scanning the image into a computer, enlarging the image as desired, and then tracing the final design to cut the template.
- Glen uses a 1/2" bushing and a 1/16" straight router bit when cutting the grooves for the stringing. Differing alternatives for template, bushing, and bit will naturally yield differing results.
- The group discussed several alternative approaches to developing templates for this work; the most important ideas were:
  - Consider the symmetry of the design and the possibility of using various "berries" as the centers for a router jig based upon a circle cut. In fact the current design and the probably techniques of the masters (pre-routers) suggest this may have been the common technique when the antiques were made.
  - Consider larger templates for the entire door rather than smaller templates for each specific cut as a means to reduce manual alignment errors for each cut.
- There are differing strategies to use when the stringing is finally inserted in the grooves:
  - Glen seems to prefer cutting all the stringing grooves; then installing the "longest" string; and then working towards the smaller string segments. This requires careful cutting of smaller

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and smaller segments to exact length to nest against the existing segments.

- An alternative is to cut the stringing grooves one by one, inserting the stringing as each groove is completed. This results in most string segments being "longer" as the router makes the cuts as needed into existing segments.
  
- The fourth major step is to create the ¾" banding used for perimeter. (Note a variety of patterns are possible; some can be purchased pre-made from various sources).
- Glen uses cherry, maple, and walnut in his work, although other species can be used. Authentic spice boxes typically used wood found in the local area.
- The ¾" banding is composed of four parts:
  - A 1/16" outer string
  - Two separate 5/16" diamonds (chevrons)
  - A 1/16" inner string
- The banding is made in several steps:
  - A number of 9/16" sticks of equal width and thickness are prepared from two contrasting species
  - The sticks are edge-glued in a form similar to a "finger board"
  - An initial cut is made at 45 degrees
  - Subsequent cuts are made with a 5/16" spacing between the table saw blade and the fence.
- The banding is then cut into thin strips on the band saw.
  
- The fifth major step is to create the 1" banding used for the circle.
- The 1" banding is composed of four parts:
  - A 1/16" outer string
  - Two separate 7/16" diamonds (chevrons)
  - A 1/16" inner string
- This banding is prepared in segments of 120 degrees (or 1/3 of the full circle).
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- The banding is then cut into thin strips on the band saw.
  
- The ?? major step is to plan the locations for the "berries". These are clusters of three or more differing wood species. The best approach seems to be to cut and install all of each species – e.g., all the cherry, then all the maple, etc. Each berry is installed as a full dowel; subsequent species / berries are added by an overlapping cut. (Note that a plug cutter is used to create the wood for the berries from face grain – end grain will not have a suitable final appearance).

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- The final step is to place all banding and stringing into the proper grooves, glue, sand, and finish.

Contact me for any further questions.

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