



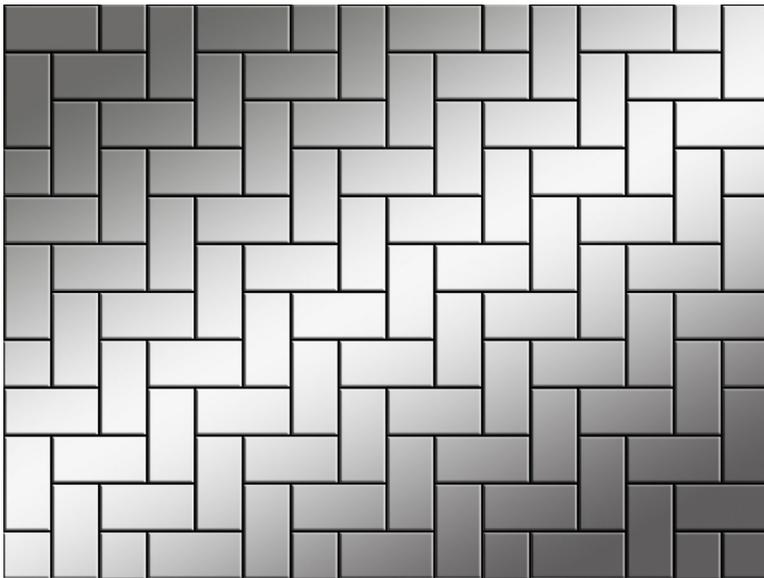
International Association of Penturners

180 Degree Herringbone Segmented Pen Blanks

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I will start by admitting that I do not make segmented pen blanks. I do not have the patience to cut a pen blank into pieces then glue them back together. But, I do admire those who make segmented pen blanks and other segmented turnings, especially after this entry into segmenting. I will continue to admire and look at segmented turnings but I do not see a lot of segmenting in my woodturning future.



Classic herringbone pattern.

I started with a few walnut and box elder pen blanks.

The box elder blanks were milled square but the walnut blanks had to be passed through the table saw to true them and make them the same cross sectional size of the box elder.

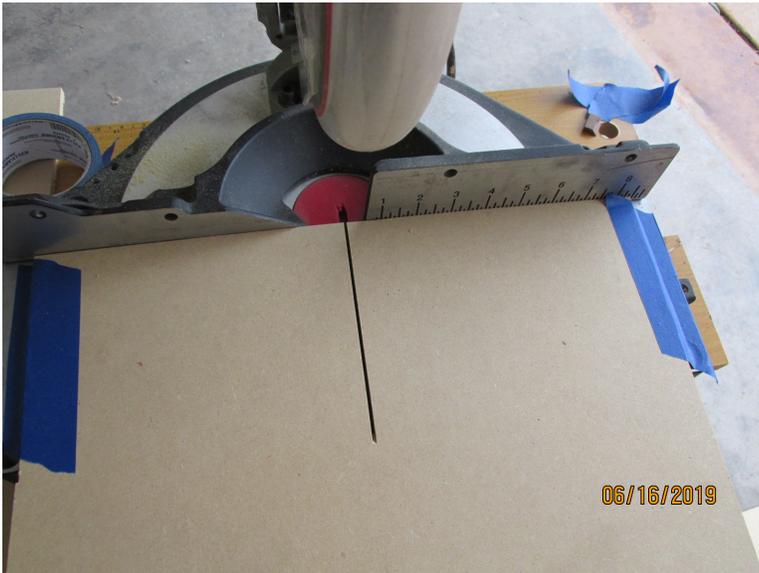
The blanks were .8 inches square.



The walnut blanks (top) and the box elder blanks ready to be cut into slices.

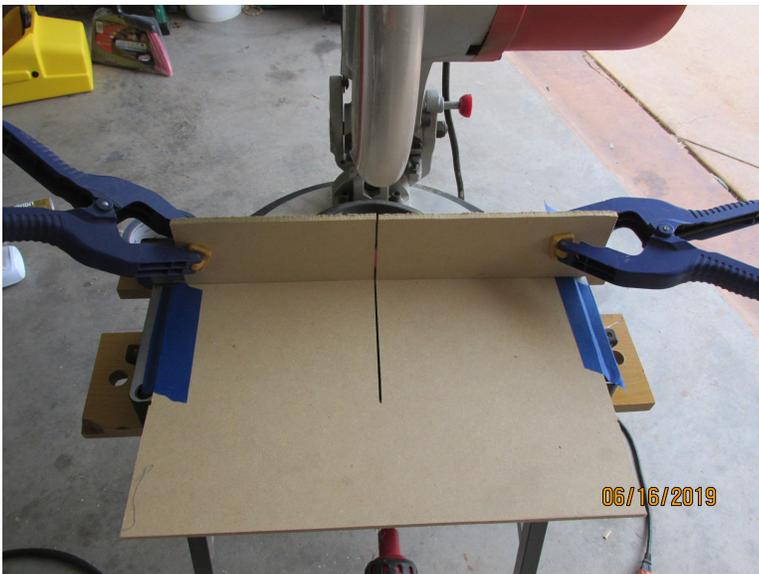
Cutting the blanks into slices can be done in several ways: table saw and sled, band saw and sled, or power miter saw. I choose to use my power miter saw. But first I had to make a zero clearance fence system to keep the slices from falling through the slot in the table or flying off across the shop.

I used some .250" thick Masonite type material to make the zero clearance fences. I taped a piece to the miter saw platform and cut a kerf into the hardboard.



The kerf cut into the hardboard and base taped to the saw platform.

Next I put a piece of the hardboard along the saw fence and cut a kerf in it.



The piece of hardboard attached to the saw fence and the blade kerf cut in it.

I then took another short piece to attach to the right side of the blade to gauge the thickness of the slices.

I arbitrarily choose a thickness, which worked out to be .230".



The hardboard piece is in place to gauge the thickness of the slices.



A walnut slice captured between the hard board fence jig and the saw blade.



I cut the box elder and walnut blanks into slices for gluing together. The saw blade had to be allowed to stop so the slices could be retrieved and the blank repositioned.

Luckily my saw has a brake so the blade stops spinning quickly instead of slowing down naturally. I cut about 40 slices of each wood that proved to be more than enough for my purpose.

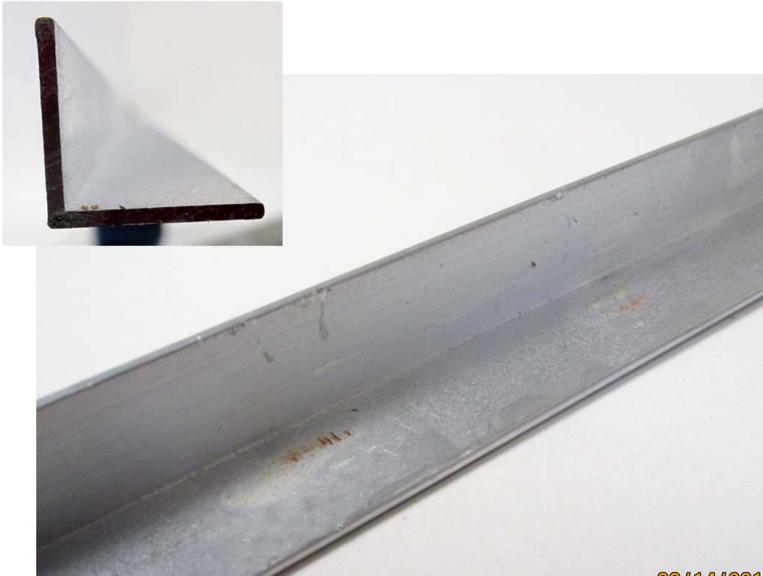
Some of the box elder and walnut slices ready to be used.



One of the walnut and box elder slices close up. I placed a sheet of sand paper on my counter top and lightly sanded both sides and the 4 edges edge of each slice.

I was going to only sand the sides and edges that will get glued together but I found it confusing to keep track of which side and edges were sanded.

So, I just sanded all of the edges and both square surfaces. I also removed the fuzz from the slices from the miter saw.



The piece of aluminum angle used for gluing the pairs of wood slices.

I used a piece of $\frac{3}{4}$ x $\frac{1}{8}$ x 36 aluminum angle on which to arrange the slices for gluing. The angle kept the slices perpendicular to each other. I held them in place with small spring clamps I found at Harbor Freight. The spring clamps worked quite well and the springs were surprisingly strong. There were 18 smaller and 4 larger clips in each container for just over \$4.



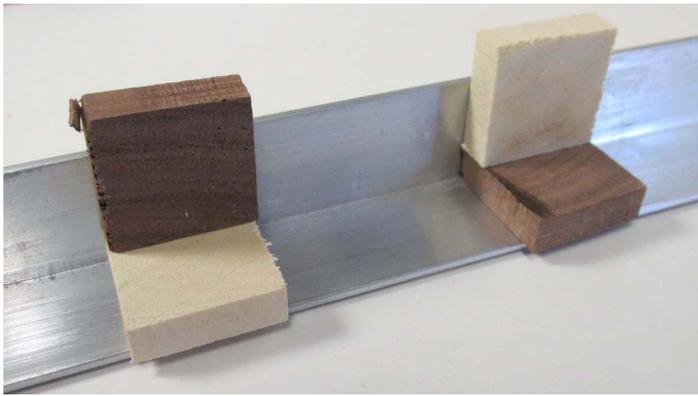
The containers of spring clips used to hold the slices while the glue sets.



Titebond Ultimate wood glue.

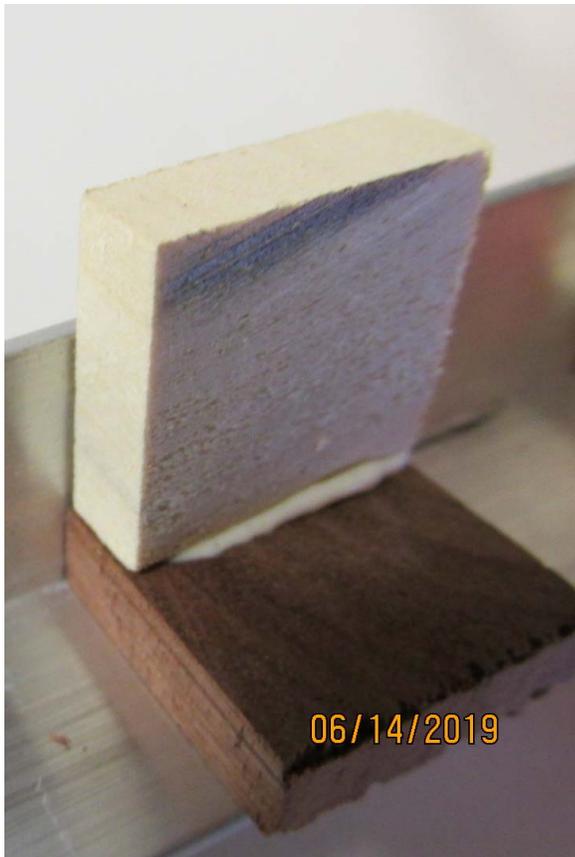
I had to make a decision as to how to glue the slices together. One way was to lay the walnut down and glue the box elder on top and the other way placed the box elder on the bottom with the walnut on top.

Another possibility was to glue all of them the same. In other words, the walnut or box elder placed on the bottom and the other glued on top. I choose to do them half and half.

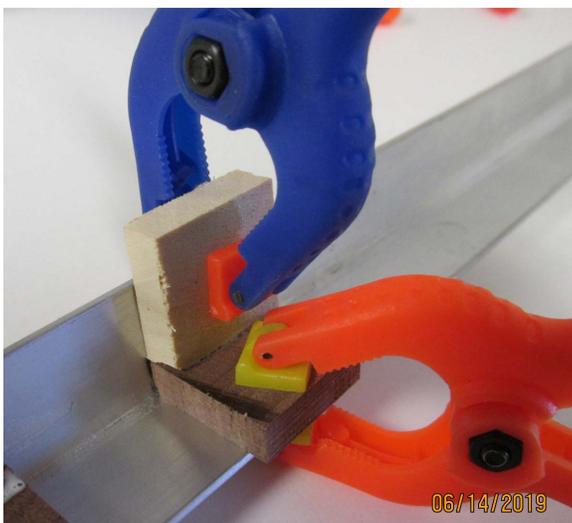


The two possibilities for gluing the slices together are possible. I choose to do half like the two on the right and half like the pair on the left.

To glue two of the slices together one was placed on the piece of angle. Glue was applied to one edge of the other and it was placed on top of the first piece and against the vertical side of the angle. Excess glue was wiped off and the clamps were applied to hold the slices in place.



Two of the slices ready to be clamped in place.



The first pair of slices glued together.

Next, I kept gluing pairs of slices together until I used all of the clamps. After the glue dried I removed the clamps and glue up and glued together the remainder of the slices. Recall, I decided to have the pairs half and half like the ones on the left.



A close up of the slices clamped to the angle.



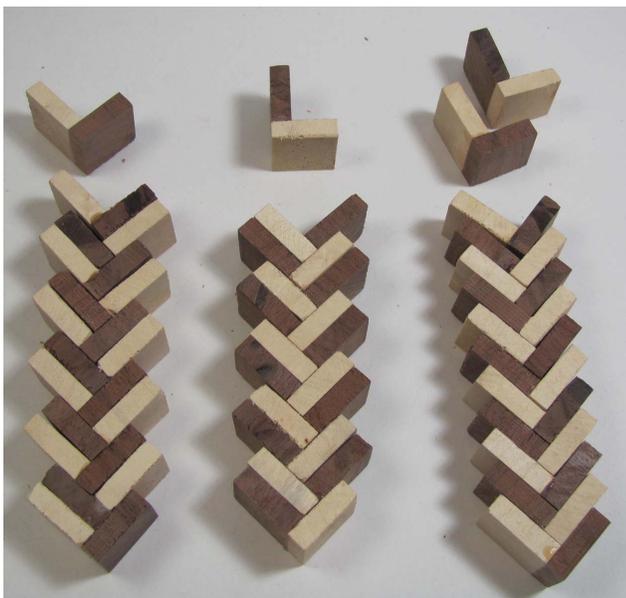
Pairs of slices glued and clamped to the angle using all of the clamps.



All 40 pairs glued and ready to be stacked together.

The next step is to stack the pairs together to form the herringbone pattern.

But, which pairs do I use?
 Stack the same pairs together (walnut or box elder on the bottom).
 Or, should the pairs be alternated: box elder on bottom, walnut on bottom, etc.? Or, should the pairs be alternated: box elder on bottom, walnut on bottom, etc.?
 So I dry fitted stack of all three.



Test stacks of the glued pairs.

The left stack was made with the pairs with the walnut on the bottom. The center stack had the box elder on the bottom of each pair and the right stack alternated. The difference in the stacks is subtle. The left two look much the same and seem to be reversed. The right stack is the different that the other two. But, all three are close and I really do not think it really matters. I kept the stacks as they are, glued them together and turned each one.

To glue pairs together I first glued as many of the two pairs together as I could using all of the clamps. I removed the clamps and glued the remaining pairs together. I kept the glued pairs separated as to not mix them. Then I glued the remaining pairs together.

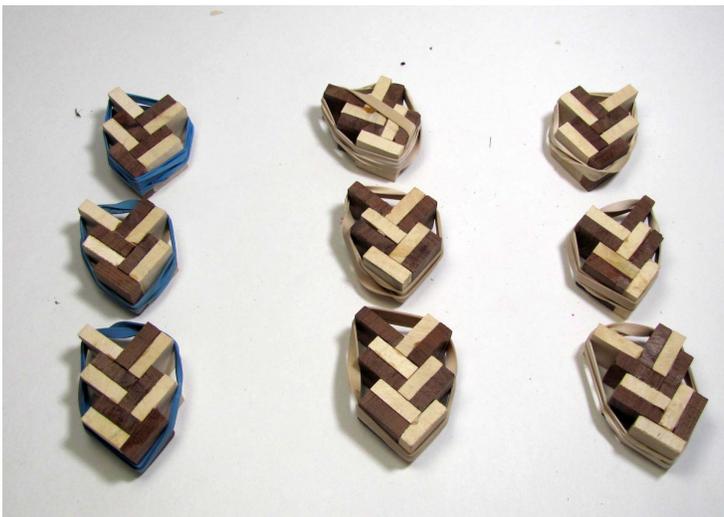
Once all of the two pairs of slices were glued together I glued those together making a 4 pair stack. Then glued the two 4-pair stacks together making stacks of 8 pairs. The stacks became too long for the clamps so I used large rubber bands to hold them together. So far this is working well but I still do not see any major segmenting in my future.



Four slices or two pairs of slices glued and clamped.



The double pairs ready to become 4 pairs glued together.



The next step in the glue up process.

I suppose all of the pairs could be stacked and glued together at one time. But, I was having a little problem keeping the stack of pairs straight and in line. That is why I glued the pairs together in steps.



The last glue up and they will be ready to turn.

Each blank (stack of pairs) was trimmed on all 4 edges taking care to keep the blank uniform and the pattern centered.

I drilled and glued in a tube and squared the ends. Again, careful drilling is important to keep the hole centered and the pattern symmetrical.

The blanks were then turned just a little past the point when they were completely round. I wanted the herringbone pattern as large as possible. I think this pattern would be best suited to larger pens...at least larger than the slimline.



One of the blanks is ready to place on the lathe and turn. The turning was uneventful. I was anticipating some difficulty with the glued up slices but I had no problems and the blanks performed perfectly.



The three blanks turned round and placed side by side for comparison.



A view of the "Other side" of the turned blanks.

There is another technique for making herringbone blanks that has the pattern on all "sides". Maybe I will see how that works.

Or, maybe I will try the herringbone in the next figure. The pen was made with a laser inlay blank from Ken Nelsen at Kallenshaanwoods.com and the image was used with his permission.



Herringbone pen. Pen made by Ken Nelsen and used with permission.