

## The Penturner's Corner

This installment of The Penturner's Corner is a follow-up to last month's column. Last month I explored several ways to hold a pen blank with a blind hole from which to turn the closed end pen. This month I will explain some of the "behind the scenes" planning needed prior to turning the pen. I will discuss things such as the blank's length, the holes to be drilled and how long they should be, and other nuances of turning a closed end pen. Then, I will actually chronicle the turning of a couple of closed end pens.

Two months ago I discussed using the pin chuck to hold the blanks for turning the dip pen, which is a type of closed end pen. So, in this article, I will not discuss the use of a pen chuck. It is important to remember that these various specialized chucks and mandrels for turning closed end pens must have a diameter as large as possible and still slip into the brass tube of the kit being used. This is true for the pin chuck and the specialized expanding closed end pen mandrels. Several kits use the same size tube and thus one pin chuck or expanding closed end pen mandrel may possibly work on more than one kit.

Last month I reported on using a type of concrete anchor for holding the pen blank. I also promised to report on which kits and which size anchor will work together. Well, I took a bag full of kit tubes to the local home blue and orange home centers to do some matching. I quickly discovered that the tube's diameters vary greatly and the anchors only come in the standard sizes we use here in the USA:  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ , and so on. The diameter of the end that expands must be a very close fit into the tube for the blank to not turn off center. I suppose tape could be used to keep the non expanding end from wobbling. I may investigate this method in a later article, but not now.

### **Measure Twice and Drill Twice**

This article will explain how to make a closed end pen using fountain pen or roller-ball kits. I will be using the baron kit which is available from <http://www.arizonasilhouette.com>. Two critical lengths will be the blank length and the depth of the drilled hole. The depth of the hole to be bored may vary between the roller ball and fountain pen of the same kit. Consideration must be given to the fountain pen for the use of either cartridges or converter or both. Roller balls must have a hole bored long enough to accommodate the refill and spring. One hole is bored long enough to accept the brass tube. Another hole is bored centered on this hole to accept the spring and the end of the roller-ball refill or fountain pen converter or ink cartridge. This smaller hole will also serve as a pocket in which the mandrel will rest and support the blank. The process for boring the hole for the fountain pen that will be made will transfer to the roller-ball of this same kit or to another kit. The skills presented in this article are applicable to making closed end pens from any kit and using any of the methods presented for holding the blank.

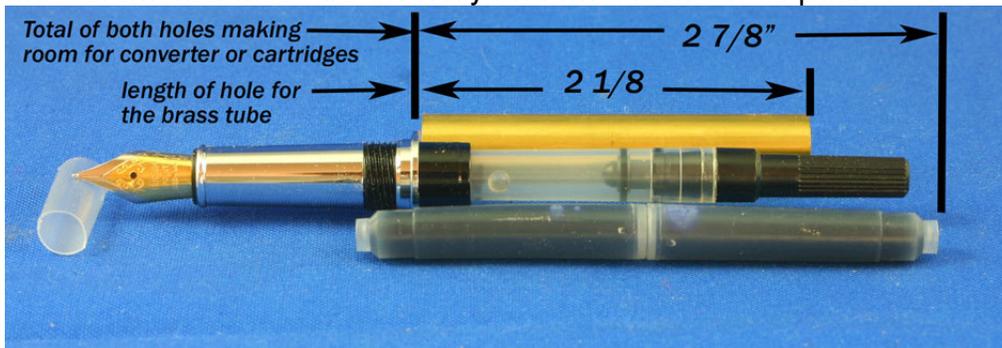
To start the pen use a blank that is longer than a standard blank. Cut an 8" blank from a board and mark where to cut for the cap and barrel. The barrel section will be longer than needed, but will be parted off of the unused portion. The baron cap tube measures 1.815". Cut the blank into a 2" and a 6" piece. **See figure 1.** Mark the pieces so they can be assembled into a pen where the cap and barrel

portions will match the grain patterns. **TIP:** I usually cut the blanks into pieces that are a little longer than needed. I also drill from what will be the outside ends of the pen to the center. I do this because the entrance of the hole is usually a little larger than the actual bit. By pushing the tube past this slightly larger end, I can get a better fit.



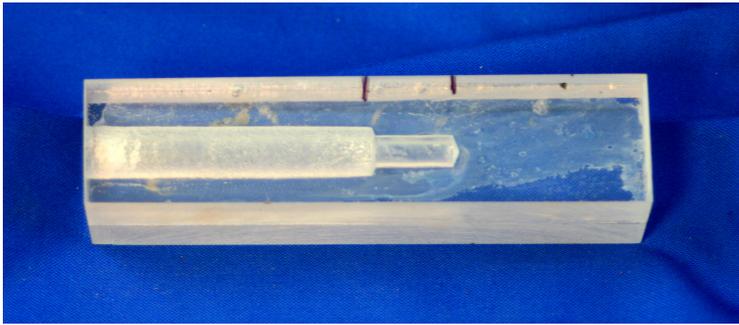
**Figure 1**

Lay out the front section, coupler, and roller ball refill, ink cartridge, or converter as they would be when the kit is assembled. Using a baron fountain pen kit, I installed the converter, and placed two cartridges back to back. The measurement from the retaining ring to the end of the cartridges measured  $2 \frac{7}{8}$ ". This length will accommodate a converter or one installed cartridge and a spare behind it. **See figure 2** for an illustration of these parts laid out with measurements. Measure carefully and write it on a note pad.



**Figure 2**

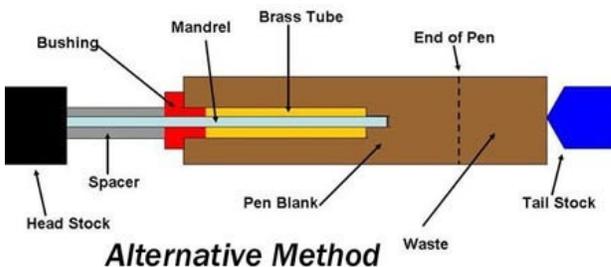
The length of the bored hole for the tube is  $2 \frac{1}{8}$ " I used the recommended  $\frac{25}{64}$ " bit and drilled to a depth of  $2 \frac{1}{8}$ ". Without moving the blank I changed to a  $\frac{1}{4}$ " bit and drilled another  $\frac{3}{4}$ " to make the two combined holes total  $2 \frac{7}{8}$ " in length. The  $\frac{1}{4}$ " hole will accommodate the converter, but to store a spare cartridge the  $\frac{1}{4}$ " hole must be enlarged after the closed end pen barrel is finished. The  $\frac{1}{4}$ " hole is needed to accept the mandrel and have no wobble. These dimensions will also work if making the baron roller-ball. If a different kit is used, these measurements will not work, but the process of measuring to determine the correct lengths will transfer to those other kits. It is important that the second smaller hole be centered on the first hole. Drilling can be done on a drill press or on the lathe. I will assume that those who read and attempt making this pen already know how to drill holes for brass tubes. I find drilling on the lathe slower but much more accurate. When extreme accuracy is required I drill on the lathe. **See figure 3** which shows a clear acrylic blank drilled. The hole appears as the frosty portion and shows the holes placements quite well. Figure 3 is on the next page.



**Figure 3**

### **Choosing a Method to Hold the Blank**

As discussed in last month's column, there are several ways to hold the blank for turning a closed end pen. Remember, I've abandoned the concrete anchor usage for the time being, and maybe forever. The choices for holding the blanks are the pin chuck, the expanding closed end pen mandrel, wooden jam chucks, and the standard mandrel as explained last month. **Figure 4** shows all four of these methods for comparison.



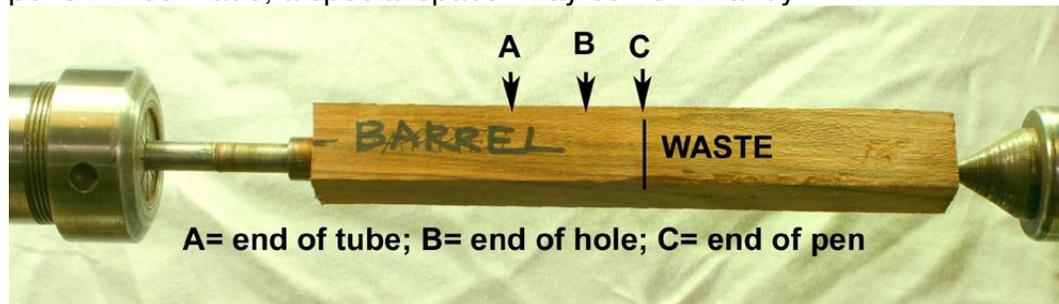
**Figure 4**

The pin chuck was used for the calligraphy pens (closed end pens) in last month's article. Using the expanding closed end pen mandrel is similar to the pin chuck and rather straight forward. I would recommend using the tail stock for added support when using either of these methods for holding the pen blank. The method I will use for making this month's pen will be the alternative method which uses a standard mandrel and kit bushing. No other special tooling will be required. Remember, using the pin chuck or closed end pen mandrel requires a dedicated pin chuck or closed end mandrel for each different size tube. The method I will present here, using the standard mandrel, will work with any kit.

Maybe the wooden jam chuck should be investigated for a future article. I think it has possibilities.

After boring the holes test fit the pen parts to make sure the hole is long enough to accept the tube, the converter, cartridges or roller-ball refill. Once the bored holes are correct the tube is ready to be glued into place. Glue the tube and square the end of the blank. A pen-mill with a shim for the barrel's tube may work...mine does. The blank is now ready to be placed onto the mandrel.

I use the Beall Collet chuck to hold my mandrel and the mandrel's length is adjustable. Some mandrels with 2MT arbors are also adjustable. So, either adjust the mandrel to the proper length or use the longer slimline bushings as spacers. Or, make a spacer the correct length for your mandrel. The space needs to bridge the space between the left hand end of the mandrel and the bushing on the right hand side. Be sure the mandrel is seated in the 1/4" hole. Use the tail stock to put enough pressure on the blank to hold it while turning. Periodic tightening of the live center just a little may be needed while turning the pen. **See figure 5** which shows the blank placed onto the mandrel using the longer slimline bushings as spacers. Any bushings can be used as spacers. If several of these pens will be made, a special spacer may come in handy.



**Figure 5**

### **Ready to Turn**

The closed end portion of the pen is now ready to turn. Turn the blank round and then begin to fashion it to the shape you desire. Be aware of where the bored hole stops and do not turn the diameter small enough to turn into the brass tube or into the hole where the mandrel is seated. I've made several of these closed end pens and for the barrel a length of just less than 3 1/2" seems to have a pleasing length. The length can be a little shorter or longer if desired. The closed end part of the pen can be rounded over, tapered, or can even have decorations of a couple of beads. It can also be squared off. I would suggest sketching a few profiles for the treatment of the closed end portion and turn the profile that grabs you. Looking at commercial fountain pens on the various fountain pen website or catalogs may provide some ideas for the closed end treatment. You may even find a shape you like and let it become your signature for these closed end pens. Or, take a look at Ed Davidson's (aka YoYospin) IAP photo album for some excellent examples of closed end pens. <http://tinyurl.com/2eh59r>

The closed end barrel should be turned to its final shape with the far right hand portion of the blank, the waste part, almost parted off, but leave enough wood to support the blank for sanding and finishing. **See figure 6** for a completed barrel ready for the waste portion to be removed. Figure 6 is on the next page.



**Figure 6**

Sand and finish as much of the closed end barrel as can be done. Then, part off the waste portion. Be careful not to disturb the profile that has been established. I will show how to secure the blank for final shaping of the very tip of the pen.

Now, use masking tape and tape the pen barrel, bushing, and spacers to the mandrel or the nose of the lathe. The tape will be strong enough for that final shaping, sanding, and finishing of the tip of the pen. **See figure 7** to see a barrel taped into place and ready for the final touches. I use blue painter's tape which holds well enough and releases easily. The tip of the closed end portion of the pen is not completed. With the closed end barrel taped to the mandrel, the tip can now be detailed, sanded and a finish applied.



**Figure 7**

The cap portion can now be turned normally as per the kit instructions. Sand and finish the cap and assemble the pen following the kit's instructions. Your pen should now be finished and look somewhat like the one I made for this article. It can be seen in **figure 8**.



**Figure 8**

Congratulations! Closed end pens are easy modifications that turn these kits into a pen that looks more like a commercial pen than and a kit pen. The possibilities are almost endless.....so let those creative juices flow. The techniques used in this article can be transferred to other kits to make a variety of closed end pens.

Remember, emails with your comments are welcome. Please send me a photo of your closed end pen. It may just show up in next month's article. In fact, send me a photo of any pen you've made using these articles. Who knows? Email me at [don@RedRiverPens.com](mailto:don@RedRiverPens.com)

Do a good turn daily!  
Don