

Making a Bent Dublin Pipe on a Wood Lathe

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I will preface this by saying that I am no expert pipe maker. There are many ways to make a pipe and this is the one that seems to work well for me.

Also, this tutorial covers how to make a pipe on a wood lathe (because that is what I have.) Many people make pipes on a metal lathe and claim that it is a superior tool.

This tutorial covers that basic steps used, but does not discuss tool usage. This project is well suited for intermediate or advanced turners as it involves multiple re-chucking and off-center turning.

As with any turning project, safety should be paramount in your mind. Safety glasses are a must (face shield is recommended), loose clothing is a no no, and remember to keep your fingers well away from the turning wood, especially since this project is done all off center.

Find a suitable chunk of Briar. You will need to use a band saw or hand saw to square up the edges.



Once the sides are squared up you can draw your design on one face of the briar.
Note that you need an accurate line for the center of the bowl, the smoke hole and the
stem hole. On a straight pipe the smoke and stem holes are on the same line.



Transfer your three lines onto the top and side of the block. (You must be very accurate
here since you will be using these lines to drill your holes.)



Place the block in a 4 jaw chuck with two of the jaws removed.
Line up the guide line with the approximate center of one of the chuck jaws and bring the tailstock up to meet the block.
Now you have to fiddle with the block quite a bit to get everything lined up.
You will know you are lined up properly when the live center on your tailstock scribes a pints (instead of a circle) when you turn the block by hand.
Note that I am using pin jaws here. This turned out to be a mistake because the pin jaws did not hold the block as securely as I needed. You will see that I later switched to a set of Nova Tower jaws.



Put a Jacobs chuck into the tailstock and drill the smoke hole.
I like to use the tip of a skew chisel to make a starting hole for the drill bit and then drill a small guide hole with a smaller drill bit first just to minimize wander.
Use the guide line on the block to mark the desired depth on your drill bit. **You don't want to drill too far. Be precise here.**
When drilling the hole remove the drill bit and clear out any shavings after each ¼ inch or less!
Here I used an 11/64" drill bit.



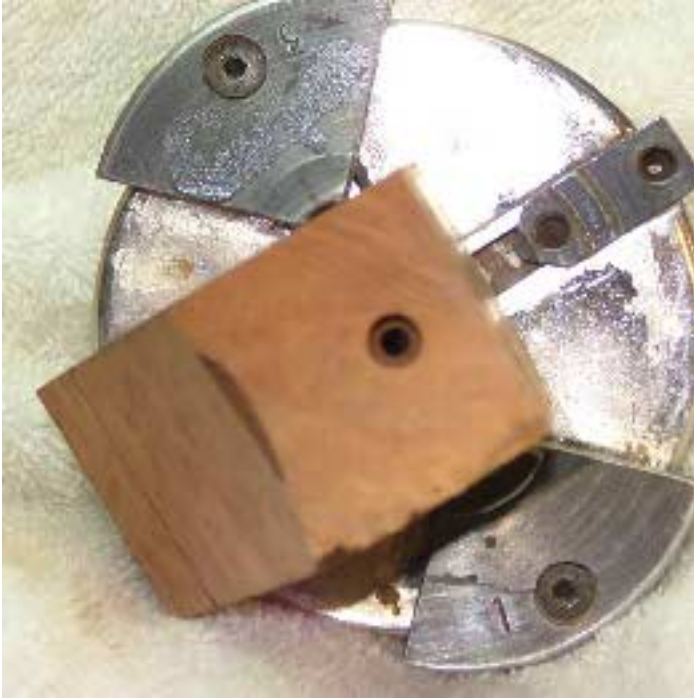
Re-chuck and re-center the block along the guide line for the stem.
Again, make a starting hole for the drill with the tip of a skew chisel.
When drilling the hole for the stem go slow and clear shavings every $\frac{1}{4}$ inch or less.
I used a $\frac{5}{16}$ " bit for the stem tenon.



Now take a bowl gouge or scrapper and square up the end.
Use a straight edge to make sure you are flat all the way across.
(If you are not the stem will have a gap where it meets the pipe)



When drilling the hole for the stem you need to stop frequently and check your progress. When making a bent pipe it is critical that you stop drilling the stem hole when the smoke hole is centered in the stem mortise hole. (Remember that the smoke hole and the stem hole are not parallel in a bent pipe.)



Now you are ready to fit the stem. The stem should be fit to the pipe as early in the process as possible.

Stems come from the manufacturer in several ways. I have shown two here: rod and pre-formed stem.

I will be using a pre-formed stem for this pipe.



Find a drill bit that will just fit in the draft hole in the stem.
Put this drill bit in a Jacobs chuck and use it to align the stem when mounting it in the pen jaws of your 4-jaw chuck.



Now for the really hard part. I use a skew chisel to gradually trim down the stem tenon to fit the mortise hole I drilled in the block. (Don't be tempted to use a pair of calipers for anything other than getting you close. It is really easy to trim the tenon too much.) Once you get the stem so that it fits in really tight you can use a little Bee's wax to lubricate the joint. This is a trial and error process and can be somewhat time consuming and frustrating. (Here is where a metal lathe would come in really handy.)

It is critical here that you get the shoulder of the stem tenon perfectly flat (90° to the axis of the stem) to avoid gaps in the pipe to stem junction.



Ok, I have the stem close. Time for Bee's wax and a little more trial and error.



Notice that I have changed chucks here. I found that the pen jaws I was using earlier did not hold the block securely enough so I glued on an extension block and switched to my tower jaws (I should have done this in the first place.)

Once the stem is fitted you can turn a design into the stem if you desire and begin to form the stem of the pipe. Notice that I had to stop because I reached the edge of the bowl. I like to use a 1/2" bowl gouge for shaping the pipe, but you could just as easily use a standard spindle gouge.



Now, re-chuck your pipe for the third time and center to drill your tobacco hole.



As with the other drilling I used the tip of a skew chisel to make an entrance hole. Drill out the tobacco chamber only part way with a large diameter drill bit. I am using 1/2" here.



Now you can take a spade bit, which has been ground to the desired shape and sharpened like a scrapper, to drill your tobacco chamber.
Go slow here because you need to stop just as you reach the bottom of the smoke hole.
If you did everything right you should find the smoke hole at the bottom tip of you tobacco chamber.



As you can see, the tobacco chamber stops just as it hits the bottom of the smoke hole.



Then you can clean up the chamber with a small scrapper or some sand paper wrapped around a dowel rod.



Once the tobacco chamber is to your liking you can proceed to form the outside of the pipe top.
Don't go too far or you will nick the stem.



Now the pipe is ready for sanding and filing.



I have made my own sanding disk with a scrap piece of wood and the mandrel to my Beal buffing system.

The sanding surface has a piece of heavy weight leather and adhesive backed hook and loop so it will accept a hook and loop sanding pad.

Here I am using 120 grit Abranet. It cuts through the Briar like butter.



And I am ready to rough sand. Ventilation is a must here.
Watch your knuckles and also the parts of the pipe you don't want to sand.



Almost done rough sanding



Done rough sanding.
Time for the files and hand sanding



Here I have completed final shaping and have hand sanded the pipe to 150 grit.



At this point I need to put a bend in the stem. This is accomplished with an old hair dryer that I picked up at Good Will for \$5. The stem is heated until it becomes pliable and then bent and held until it cools enough to hold it's shape.



And the stem is replaced on the pipe.



Next I coat the pipe with dye. I use Febings alcohol based leather dye.



Then I hand sand to 220 grit and apply a second coat of dye.
This process is repeated with 320 and then 400 grit.
After sanding with 400 grit I apply the last coat of dye which does not get sanded back.

The final step is to buff the pipe. I use the Beal buffing system.

And, the final product:

