

18TH OCT

While the Pinions were being cut I got on with making the 1st Train Spindles. They weren't finished yesterday so didn't get a mention but I did continue with them this morning. Again turning between centres and, due to their length and the fact that they have a 3mm Ø section, I had decided that I needed to be cautious about the depth of cut — that was until it seemed to be going so well that I got 'greedy' :(Fig-79 shows the result!



While the Denford was cutting the main 72T Drive Gear I re-made the fourth spindle. Before that I took a 310mm length off the Maple board and split that down the middle (ish) - at 150mm+ wide I've discovered that there is no way I'll get three blanks out of the 27mm thickness, particularly since the saw cuts on the face are about a mm deep, so I'm resigned to having to skim at least 2mm off both faces.

As I anticipated, there is some break-away on some of the tips of the teeth due to grain direction but I can't tell yet whether this will impact upon how the clock 'works'. At 148mm Ø the 72 tooth Gear (Fig-80) is the largest and is the main drive wheel – ie. it is attached directly to the weight-cord winding bobbin. I had some difficulty with my initial plan to finish cut the teeth with a 1mm Ø end-mill since the flute length on that is only 6mm and this Gear is 8mm wide but to make sure the tooth width is covered I'd written the G-Code to cut 9mm deep.

In the event, I changed that to 6mm and created another MOP to use a point 8mm 'burr' for the last 3mm. Once the Gear had been cut, I turned the blank over and cut most of the excess Maple away using the surface MOP, well until the Gear was close to finished thickness - sufficient to break away the waste anyway - the final thicknessing was done on the lathe as was the final sizing of the bore and the clearance recess for the Ratchet.



I've included the 8 & 10T Pinions in Fig-80 to show the relative scale of each but it also shows the difference between the 'white' Maple I bought a while ago and the Canadian Hard Maple I bought with the Walnut last week.

19TH OCT

I cannot praise Whitmore's Timber highly enough for their service, (their paperwork processing is a different matter!) I returned the 5" wide board this morning and came away with a 9½" wide board as a direct replacement since that was the nearest they had over the 6" I'd paid for. The nett result is that I paid ~£85 cu/ft rather than the ~£140 cu/ft anticipated. With a second visit I also cemented some connections, building a useful relationship for future purchases.

Now I have the Escape Wheel, Pinions and some spindles made, and, after cutting the Maple board for the Main Drive Gear, I have a suitable 'stick' from which I can make the spacers. While cutting that up to make blanks, I also made blanks for the Winding Drum because there were oddments of Walnut, Oak and Ash laying about that were of a suitable size so Fig-81 gives you an idea of how these small items start life and Fig-82 shows the three stages that lead to the finished spacers which go between the Escape Wheel and an 8T Pinion.



Tomorrow I should start cutting up the Walnut board to make blanks for the Dial but I suspect that I'll start by finishing the spacers and winding drums.

