## 23RD Oct

The drawings for the 32 T gears were done a while ago but this morning they were still in CorelDRAW! I'm pointing that out only because it astounded me that I hadn't created the G-Code and sent it to the workshop until mid-afternoon. It's astounding how long it takes (me) to arrange multiple identical items on a grid to allow for minimal tool clearance and avoid clamping holes!


Maybe I'm being too 'tight' in trying to squeeze the most out of any piece of timber and not considering the time element as part of the cost....... hmmmm.

I'm finding this Maple to have a mind of its own! As you see in Fig-86 the blank was screwed down and flat against the table but, after the outline of the gears had been cut, the ends had lifted up by $2-3 \mathrm{~mm}$ so before I did the finishing cuts I needed to use another 4 clamps to make sure it remained flat. I didn't need the clamps after turning it over and the trimming of the backside made it easy to release all eight with just a few strokes of my piercing saw.

There were periods of 40-50 minutes where the Denford simply got on with following the G-Code paths so I used that time to mill the flats on all the spindles plus drill \& tap the Winding Drums.

Finished the day by cleaning the 32 T Gears to 5 mm thick on the lathe - I still have to machine the recesses to take the spacers but I thought 11:30pm was quite late enough to be in the workshop! I suppose that Fig-88 is not a bad days work though, even if most of it was done previously :)


## 24тн Oст

Finally! - I bit the bullet and broke out the Table Saw to cut up the Walnut board. My original plan was to simply cut the $91 / 2^{\prime \prime}$ wide board down to just over the 6 " that I needed but after looking at the options decided that cutting a 700 mm length off, that would be easier to handle than the 2.2 m long board. It meant that I wouldn't be left with a 2.2 m length of $3 \times 1 \frac{1}{2}$ Walnut which might become useful for some future project, but considered that a small price to pay for the convenience of handling a smaller 'lump'. In a similar fashion I then cut another shorter length, enough to cover the next set of parts and so on.

Although most of the frame components finish up at 10 mm thick I'm only taking two pieces out of the 42 mm thick stock at 15 mm each and to ease the burden on the band-saw I'm starting the thicknessing on the table-saw by cutting $1 / 3$ rd of the depth from each side and then finishing the split on the band-saw. The parts for the Dial are more of an issue. They finish at only 5 mm thick so I'm hoping to get 4'slices' out of the 42 mm . With a 3 mm kerf that could be challenging so I may attempt to try it on the Band-saw but that may not like an 80 mm wide cut.

Time ran out on me today since I had other chores to get done but I hope to have all 50 blanks ready for their next operations before Sunday is done.

I thought I'd completed the 'slice-n-dice' this morning but when I stacked and labelled what I'd got there were only 48 pieces and I expected 50 ------- it took me some time to work out what was missing and I discovered that I'd missed one item off when I created the cutting list so in reality I needed 56 altogether. Fortunately there is plenty of spare so the extra 8 were soon sorted.


The facts that the Band-saw was causing me some grief and I really needed it to play ball when I was cutting the slices for the Dials made me spend some time looking for the problem.

I had fitted a new blade less than a fortnight ago but I did have another on the shelf so that was certainly worth fitting. More important was the fact that I couldn't move the guide assembly down to just clear the work so that meant a major dismantling of the mechanism. It's a very questionable design since the only way to get it off the saw is to drop it to the lowest level before removing the top wheel, but since sawdust can (and does) get into the Rack \& Pinion jamming it up it's impossible to get the wheel off. I had to trim part of the structure away so that it didn't foul the wheel. Even then it is very tight against the top wheel casing needing a specific orientation before allowing the clamping stud to go through the clearance hole. Drilling that hole out to 11 mm rather than 9.5 made all the difference.

With the new blade in place and the guides at a new low, cutting 8 mm thick slices for the Dial, whilst not a 'breeze', was certainly much easier with little to no 'wander'. I had been taking it very slowly (specifically with the 150 mm wide Maple) but actually found that a firm 'push' improved matters.
26тн Oct
Naturally, cutting the Walnut board into the basic sawn blanks for the Frame, Dial \& Wall Plate is only the start of process and since my Table Saw is not an industrial Wadkin or similar I needed to make sure that the edges of these blanks were square to the faces so that when clamping them in the 'vice' on the Denford table they wouldn't tilt I'd made a decision that to skim the surface it would be better to clamp them by the edge rather than drill recessed holes so broke out the eccentric clamping block that came with the Denford. This meant that all the blanks now needed to have the edges cleaned up on the Router Table.

It also seemed sensible to fix a piece of scrap to the table and machine the face of that to a specific point for each component and Fig-90 shows both the 'Stop' and the clamp.


As I don't have a belt sanding thicknesser and most of the blanks are only just over 200 mm long - too short for a P/T but too long for my mill - the surface needed to be cleaned up on the Denford. Starting with a blank for one of the side spurs of the Frame I soon realized that it would be most efficient to clean the surface of all of these blanks before moving on to cutting the outline and joints.
Cleaning up 16 blanks with each pass taking only 2 minutes meant that I couldn't just leave the Denford to get on with it so I only got to cut the first outline and joints on the first blank quite late
 in the day and I forgot to take photo's before I'd done two! The prepared blanks are stacked in Fig-91 and the first strut with joints cut in Fig-92. I still have to turn that over to cut a recess and finish the surface to 10 mm thick.


