MKII KSS Brake Drum Skimming

I had a front wheel built for my MkII KTS using a Triumph WD front hub. The pre-war pressed steel cammy hubs are quite flimsy and notorious for not holding their shape, and the post-war hubs with the cast iron brake drum are rarer than hen's teeth. In a chance conversation, many moons ago with Ivan Rhodes, he suggested fitting a Triumph WD hub. The WD Triumph hub has a 7" cast iron brake drum and ball race bearings (not the 'how much!' tapered roller bearings)

Over time, I found the requisite parts and made a front axle to suit the Mk II girder forks. I also skimmed the brake before giving it to the wheel builders. However, when I got the wheel back, they had tightened the spokes so much that the brake drum was 15 thou out of round. Last summer, I tried the wheel in my Mk II, but the juddering was dreadful. It was my intention to get the drum skimmed in the winter, but by the time I had got the wheel out of the bike, life had gone very pear shaped.

I looked at my Dremel and realised it had a thread on the end of it (I assume for the fitting of various Dremel after market tools), so I used this thread to make a simple device to skim the above brake drum (see attached pictures), using a grind stone in the Dremel. The results have been a qualified success. I reduced the brake drum ovality to about 4 thou, but couldn't get any better than this. Primarily because the grindstone was deflecting; the bearing arrangement in the head of the Dremel wasn't stiff enough. I succeeded in trying out the front wheel in the bike once in March before the dreaded lockdown. It was a significant improvement, only getting a slight judder when braking very hard. The brake lining still need to bed in fully, but I am hopeful of a better brake than before.

I few points of note:
The Dremel I have is the battery type, which didn't last very long before needing re-charging. You can get mains connected Dremels, these would be better.
The Dremel produces very little torque, so you need to use the smallest possible diameter grindstone.
I had to raise and lower the Dremel, by varying the spacer length on the axle, to grind the full width of the brake drum.
I set up a DTI at the same time as grinding the drum, so I could monitor progress.
To get better results the shaft of the grindstone needs to be mounted more rigidly (two bearings) and driven remotely by the Dremel, either by a small belt or a coupling.
This arrangement could be adapted for Venom/MSS type hubs by making a spindle that fits within the hollow axle.

In a follow email, Chris provided this additional useful information:

If you considering making a similar device, a couple of more tips that you might find useful:

I really concentrated on machining everything parallel and square so that the axis of the Dremel was parallel with the wheel spindle.
There is always clearance in ball race wheel bearings, with the wheel spindle clamped up in the vice, I could lift the wheel rim and get a about a 4 thou deflection on the DTI I used to monitor the brake drum. I came to the conclusion to ignore this, on the assumption that the brake shoes will always try and align the brake drum under braking.
The Dremel worked well until the grinding wheel contact was virtually continuous around the drum. It was at this point I found it impossible to get the grinding wheel to ‘bite’; it just deflected. Hence the 4 thou runout was about the best I could achieve, with this set up.