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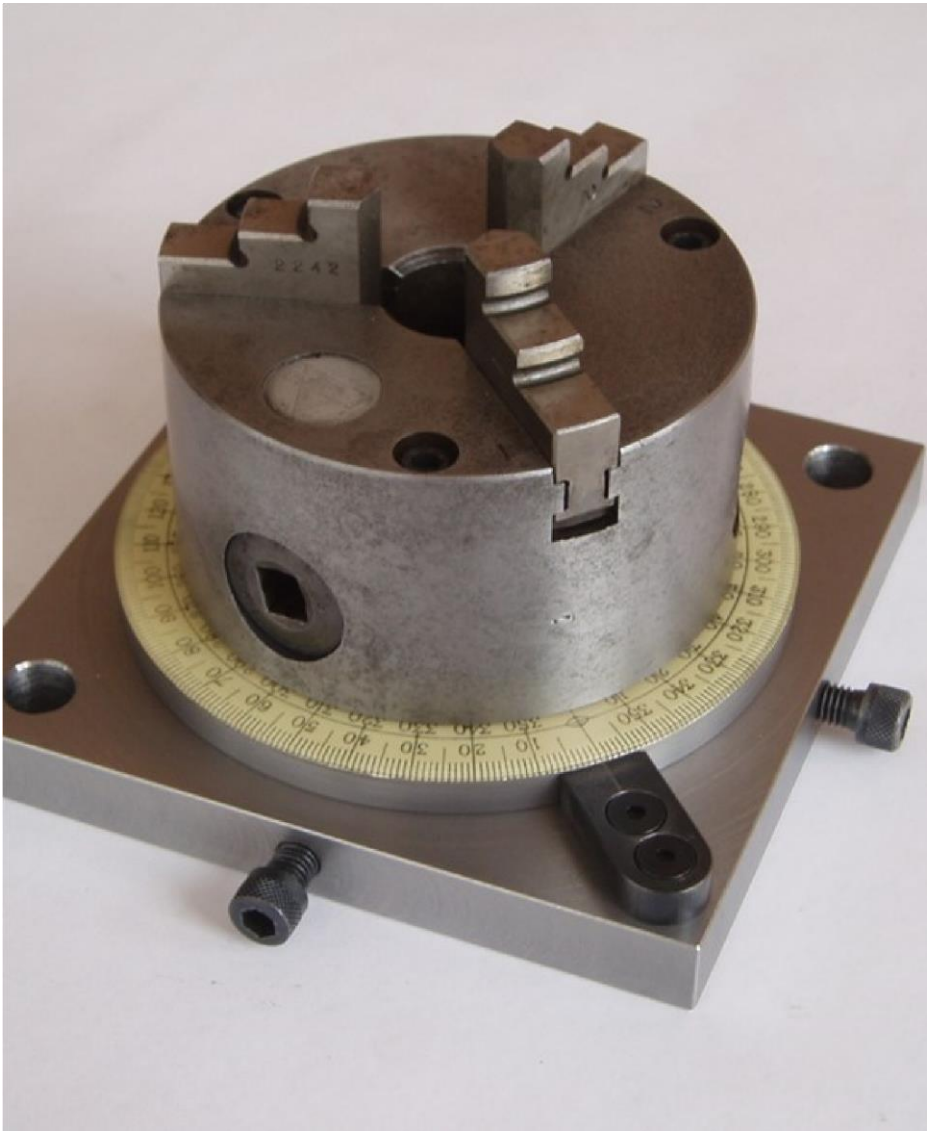
LeedsLines

Newsletter of The Leeds Society of Model and Experimental Engineers



In this Issue

Front Cover

Rotary Table by Mark Batchelor

From the Chair **Looking Forward**

I am sure that few of us expected to still be in lockdown at the end of January 2021.

Hoping that all members and their families are keeping safe and well, I know that when we get together again we will all have lots of completed projects to discuss.

Amongst my "normal" friends, (you know, the ones without a workshop!), there is a questioning that there must be more to life than working and consuming and a general desire to do something more creative and worthwhile once this lockdown ends, I have no doubt that this is a common sentiment, a great opportunity for us to welcome new members into our ranks.

None of us can know what the future will bring, one possibility is that we will have greater freedom locally, but travelling far from home will be restricted.

I understand that our Society built its first portable track in response to a request for societies and organisations to support "Holiday at Home Weeks" during WW11. If we are allowed to once again operate our track at events later this year I have no doubt that it will be equally popular and also an opportunity to recruit new members from the many people who will be looking for a new interest.

Once again, many thanks to Editor Geoff for continuing to produce Leeds Lines during these difficult times and to those who have kept us up updated with the progress of their projects via Virtual Work on the Table, keep them coming!

Looking forward to meeting you all again when we are able to.

Jack

Stan Walker 1942 – 2020

Stan Walker a Leeds Smee club member died 2nd November, he was just shy of his 78th birthday.

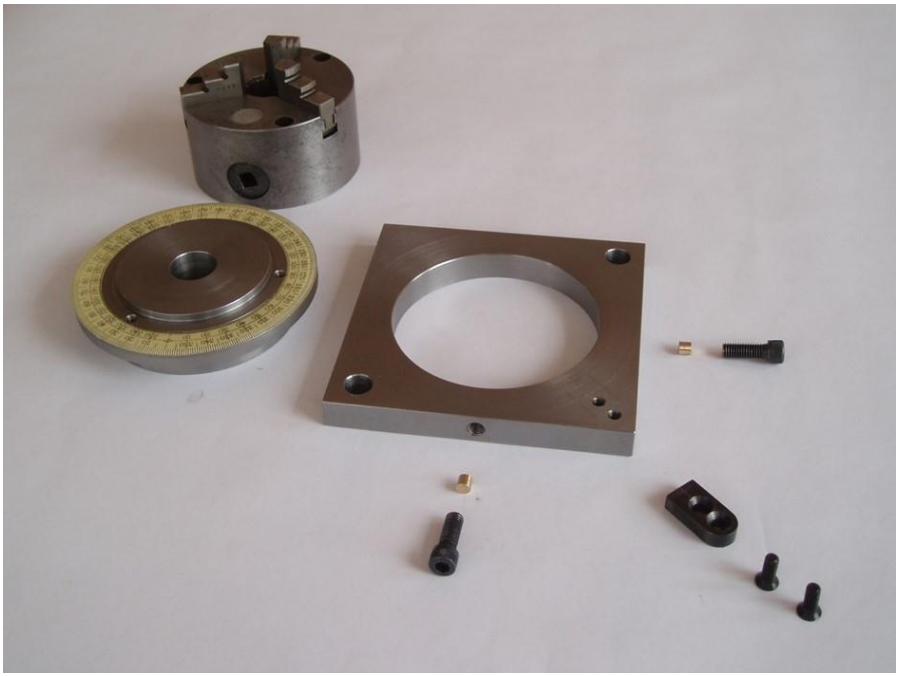
Stan was a 2½" Gauge Society member first where he ran his *Toby*. Steve Eaton was his help, guide and mentor in all things 2½" G. Stan also built a 3½" G *Tich* that he ran at the Eggborough club on their open days. Stan also travelled the country to find clubs far and wide from Romney to Bournemouth, Scunthorpe to Southport in pursuit of miniature Steam, including the IMLEC weekends. Stan was a background member at the Leeds SMEE club and Wakefield SMEE. The photo is of Stan with *Toby* in the April 2017 Steam Chest magazine No152.

Pete Walker

Rotary Table **Mark Batchelor**

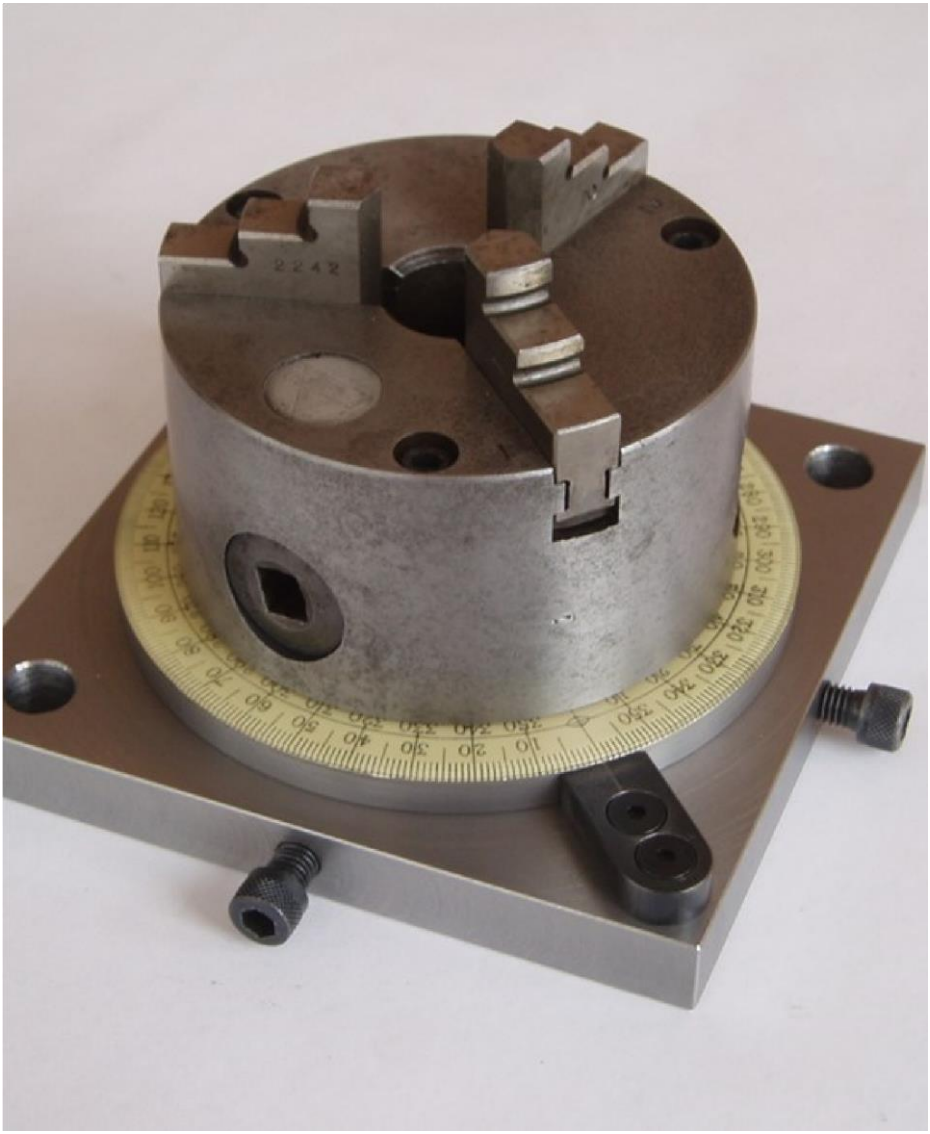
Here's a little gadget that I have been intending to make for some time – A simple graduated rotary chuck, for drilling PCDs, milling squares, hexagons, whatever. We had a similar device, probably also home-made, in the workshop where I used to work at Leeds University and I found it very useful.

I think the photos are fairly self-explanatory, I didn't bother to make any drawings but just made it to suit the pieces of steel I had to hand at the time.



The graduations are provided by a modified plastic 360 degree protractor, stuck in place with epoxy and also clamped by the chuck as it bolts down. Note the brass pads under the clamping screws; these are to prevent bruising of the chuck spigot which may make it stiff to turn. The chuck itself is 3 ¼ inches diameter, to give you an idea of scale.

The chuck spigot is only fastened to the base by the clamp screws; loosen these and the chuck assembly can simply be lifted off so I wouldn't use it for heavy duty milling, but this does mean that a workpiece can be removed from the drill or milling machine still clamped in the chuck and offered up to a mating component, then returned to the machine without losing its location. For a job such as rounding the ends of coupling rods for example, where the workpiece needs to rotate to provide the feed, I



would use a beefier rotary table so there would be no danger of the milling cutter snatching and trying to lift the whole thing off its base.

The device can of course be fastened to an angle plate for horizontal work, or even an adjustable one for drilling angled holes etc. Dimensions aren't critical; the only points to pay attention to are to make sure all diameters

of the chuck spigot are concentric so as not to introduce any run-out, and that the spigot is a nice smooth, shake-free fit in the base.

The photos show the component parts laid out, assembled into the complete unit (cover picture), and in use on my milling machine, making some funny little triangular pipe flanges for the water feeds on my 5" Britannia.

Silver Service. **Alan Macdonald**

One of my friends runs a small garden centre. Wendy presented herself there a few weeks ago and asked whether I would make a variety of silver gardening tools, which she could present to her husband on the occasion of their diamond wedding anniversary, in two years' time.

"Two years.....that's plenty of time to make LOTS of mistakes," I thought.

I have made a variety of similar items for my wife - you know: spades, forks, a watering can etc. - so I suggested these! "No, they are a bit humdrum!" "How about starting with a garden roller?"

"STARTING?! - WHY NOT?!"

First find a roller in someone's garden, measure and draw it. Easier said than done! Just when I was despairing of locating a roller, Shelly's cousin turned out to have one.

"Collect £200 as you pass 'GO' I thought."

I turned up at John's house, photographed and measured the aforementioned article, all in the teeth of a howling gale and rainstorm. Having dried out the drawing at home, I processed the measurements and started to source the materials.

For the drum it appeared that I needed some 0.75mm x 28 mm seamless silver tubing. This I found would need to be especially manufactured at £150 for 6", (plus the inevitable V.A.T.). Anyone born in Edinburgh would find that pricey, and further investigation revealed that I could have a piece of sheet silver for £28.41(+V.A.T.): well, that's more like it! Obviously I would have to roll and solder it up. Diligent raking through the store of turning nogs revealed a rather over-sized piece of aluminium. I set-to. Every time I turn aluminium I am amazed by the amount of swarf that I create! Eventually I had a serviceable former and several buckets of swarf.

Diligently I swept both the lathe and workshop floor and disposed of the detritus. Then I repeated the process, and again, and yet again. Later, several weeks later, I am amazed that I am still trailing swarf into the house!

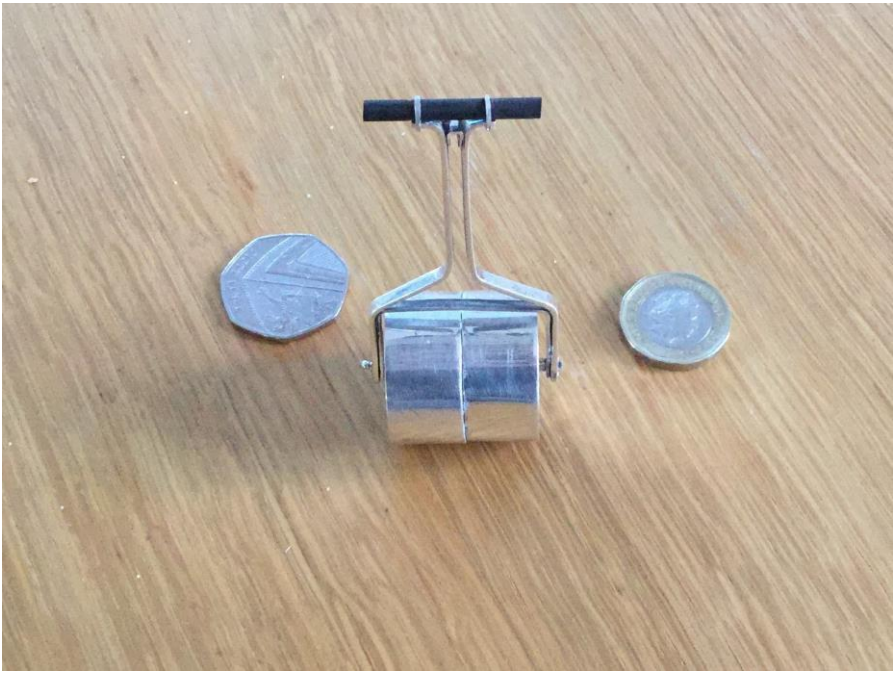
So is Shelly . . . .

Once created, the drum of the roller was split and pierced for the axle, but the soldered silver was fire stained, so I boiled it in 2 molar H_2SO_4: *voila*, no more fire stain (more of this later).

I then tackled the frame of the roller. Surprisingly this held very few demons and I turned my attention to the handle. Inspiration struck (beware)!

"I'll make that from ebony - it will make a lovely contrast to the silver."

I had learned in the past not to bully ebony and, since I only had a rectangular rod that would eventually be suitable, I set about turning the rectangularity out of it using increments of 3-5 thou. until the desired dimensions had been reached.



Contrast the amounts of swarf from aluminium and ebony. The wood turnings were just a pile of black dust.

I was about to assemble the handle to the frame when I realised that the drum had produced blue scum from the axle holes. "Aha!" I thought: 'the acid has attacked the copper in the silver alloy and made copper sulphate'. So the drum underwent a spell of industrious boiling in bicarbonate of soda, to neutralise the acid before I could proceed to final assembly of my roller.

Some Thoughts on Threading with a Tailstock Die-Holder

Ideally, of course, you should screwcut threads. But to be practical, who on earth is going to screwcut a 12BA thread? Setting up a complex gear train that probably requires gears you haven't got is a pain. No, of course you're going to use a tailstock die-holder with a split die in it. It may have been GH Thomas in the past (I can't remember, and I can't be faffed with looking it up) who proposed that you make up a selection of individual die -holders for all your split dies, and spend a bit of time adjusting each one to cut to size. That way it's simple to whip out the die and holder you need and you can be reasonably confident of achieving a correctly-sized thread on your component.

But of course in the real world, having used up about twenty feet of 1½ " diameter mild steel bar in creating all the holders (and found somewhere to put them all) the first job you come up against is an obscure sized one and you haven't made a holder for it...(It's a bit like Quick Set Lathe Toolholders in that respect.)

So probably, like me, you've never bothered, and when you need a part threading you simply grab your tailstock die-holder, you give an annoyed sigh when you realise *that's* where that bloody ¼"x 40 die is, and you didn't need to have bought that new one after all. You fit the required die to the die-holder and then cut the thread. Then, and only then, having spent several hours on some expensive material, do you find that the die cuts undersize and you've scrapped your part. This can be because the die is cockled over, or just adjusted too much the wrong way. Or both.

So what you should get into the habit of doing is to see what you're going to do in the threading department *before* you do it. Don't just plunge into the machining without some thought. If you're going to need a thread on a component, then *before you start*, find a scrap piece of material (ideally identical to what you're going to use for the job) and try out your die on that first, and adjust it until it cuts to size. *Then* you can go ahead with the real job.

But how do you check the thread is correct? Where you have some commercial nuts of the right size, of course you can simply use these for a gauge. But what if you're making (say) an obscure 9/32" x 32 male thread and you haven't got a nut as a thread gauge to try it with? And the part is already in the lathe and you don't want to destroy its setting-up... Well, before you get that far, you should have made some thread gauges!

So make a New Year's Resolution. Next time you go in the workshop, before you start on anything else, dig out all your odd dies (the ones that have taps to match) and then find some short ends of suitable bar (preferably

hexagon, but it doesn't matter) of the appropriate size. Stick each one in the 3-jaw, drill it tapping size and tap it in the lathe with the appropriate tap. Then you pop each of these "Gauge nuts" into the tin where you keep your dies – you now have a thread gauge for each die. (If you don't store your taps and dies in individual sizes – you should – you may need to mark your gauges or keep them in a little marked plastic bag to identify them.) Now I am only too aware that the home-made gauge may not comply to International Standards, but all that matters is that it fits the thread made by *your* taps, because that's generally all that it needs to do.

I imagine in the future that like me, you also find that the odd Gauge Nut is very often just the thing to become an Actual Nut and fitted to the latest project. Remember to make another one...

Nigel

LSMEE - Dates for Your Diary

In line with Government guidance regarding the Corona Virus outbreak all club meetings and portable track days are cancelled and where possible will be rearranged for a later date. Up to date news available on the club Website.

Subscriptions 2021

Because of the Current Situation and the curtailment of the normal Leeds SMEE activities, it was decided by the Committee that Subscriptions paid in 2020 would continue until the end of December 2021, in the hope that by then we may at least be able to meet up again. Hence 2021 Membership Cards (In a cheery deep red colour) will be issued to all Members shortly. No need for you to pay up!

Nigel

Society Officers and Committee

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Secretary:	Geoff Shackleton
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