Volume 22 Issue 4, November 2020

LeedsLines

Newsletter of The Leeds Society of Model and Experimental Engineers

In this Issue

'STOP PRESS'

See the important note at the bottom of Page 3 regarding the proposal for a new track at Eggborough'

Front Cover

Steve Russell's Gauge 1 Johnson 3P

Almost ready for it's first steaming

From the Chair — Jack Salter

Look to the Future

Well, I am sure none of us expected to still be under the current restrictions this late in the year.

That members have clearly made the most of the extra time in their workshops is evidenced by the inspirational Works on the Table write ups we have continued to receive, thanks to the many contributors and our Hon Editor for distributing them.

I have heard of members also returning to their model railway layouts of various scales both indoor and outdoor and others taking the opportunity to improve their workshops, I know of one member in his late 70s who is building a new workshop using engineering bricks, as they lasts longer than common bricks – that is looking to the future, an example to us all!

Whilst our season has ended without any activity, now is the time to look forward to the future rather than to dwell on what we have missed out on.

Elsewhere in this newsletter you will read the good news about the continuing talks with the new owners of our Eggborough site and seen Nigel's impressive plans, I am sure that many members have itching spade fingers wanting the get stuck in.

It looks likely that there will be a vaccine before the start of the portable track season, so that should be going ahead as usual and hopefully we will be able to start meeting up again soon.

Keep Safe

Progress on New Track

The plans alluded to above can be found attached to the email as a separate pdf file (electronic version) or as a separate printed letter from Hon. Sec. for those taking the newsletter by post

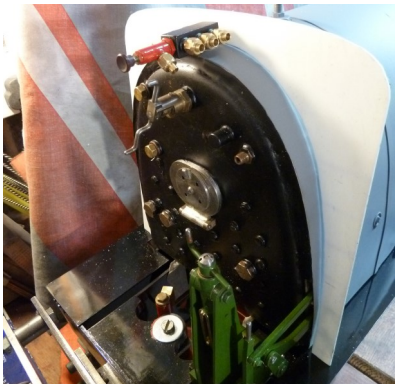
Nigel has once again penned a 'Christmas Quiz' and this is also attached (or printed) together with most of the answers

Ivatt Atlantic No. 3279 – an update: Geoff Shackleton

Following on from the report in the April Newsletter here is a 3279 update. You will see from the photos that the boiler cladding is now complete and the boiler has been painted with etch primer. Etch primer is to be preferred for use on materials such as brass. If you have watched the Antiques Roadshow on the BBC you will have seen them comparing items which are described as 'basic', 'better' and 'best!'. The same thing applies to paint and primers, a 250 ml tin at a motor spares shop might be £7-50 but from a paint specialist it would be at least £20. The paints are not the same. Etch primers consist of a base substrate, sometimes but not always with a colour added so that you can see where you have applied it. It is mixed with an activator typically phosphoric acid and it is that which bonds the pigment to the metal surface! Once mixed the paint only has a shelf life of a year. The spray cans of etch primer from motor spares shops are designed for a longer shelf life and seem to have less activator.

If you buy the proper stuff from a specialist paint supplier you may well be offered it ready mixed in a tin on which there will be a use by date or alternatively as a 'two pack' set which you mix yourself. Since the etch primer bonds to the brass you should only apply one coat. If you are spraying it you will need to add etch primer thinners. Etch primer thinners are different to other thinners so only use the proper stuff.

You will also see from the photos that I am doing a trial fit of the boiler on the frames. I'm checking it is right in its x, y and z levels and that the smokebox saddle is at the correct height. I'm also checking that the drain cock linkage and the reverser reach rod will fit and operate as they pass inside of the boiler cladding. This complication only applies to No.3279. As built the engine reach rod went between the frames under the engine from a pole reverser to the in- side Stephenson valve gear. Due to complaints as to how heavy the reverser was and the fact that drivers where leaving the engines in full gear and driving on the regulator a vertical screw reverser was fitted to No. 3279 in 1915 as an experiment. To accommodate this the reach rod passed along the outside of the boiler cladding. When the engine was rebuilt (yes, again!) in 1937 the fact that the reach rod was external to the cladding was considered untidy and it was therefore concealed beneath the cladding.



Before painting the engine LNER Doncaster Green (it was originally GNR Green which is different!) I will build the cab and complete the tender so that all can be painted at the same sitting. This is also an advantage when you consider how many times the cab will be on and off before it is finished with the likelihood of scratching the paint. The cab on No. 3279 is different to the other Atlantics. It is wider, to accommodate the screw reverser and also higher and longer and the side sheets curve inwards at the rear. Also from 1915 the four windows were reduced to two. If you are building a locomotive and want to check on detail then go to **www.isinglass-models.co.uk** and look at their index of drawings. Their drawings are well researched and annotated with additional detail.

Wild Rose 3 **Richard Hanes**

Last time I had just assembled the frames, now things have moved on a bit. Wheels have been turned and fitted and I also have the (slip eccentric) valve-gear present together with the coupling rods. All moves smoothly after a little fettling.

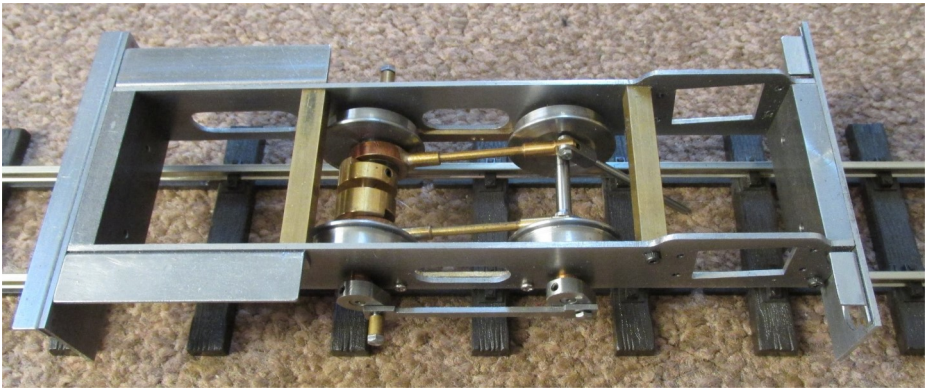
Those of you familiar with this design will spot that I have changed the eccentric straps from the spit type to solid circular ones. This was for simplicity of machining but needs the compensating move of a bolted pivot in the valve rod to permit the easy dropping of the wheels, the original two parts of the valve rod being assembled by riveting.

I was not impressed to find that all my stock of 3/32" stainless steel was drawn (and rather poorly at that!) rather than centreless ground. A quick order sorted that issue, though the postage was rather more than the material cost! That enabled me to complete the valve gear to the stage shown in the photograph.

I've a sneaking feeling there might be an error in the dimensions of the valve-gear time will tell! I will crack on though, rather than simulating the valve events on the computer at this stage, as it may all work out, and it shouldn't be too difficult to sort if it doesn't.

For those interested in a few statistics, the wheels are 26mm tread diameter, the crank throw is 6.5mm and the total valve travel is 5mm. A video of Dave's now elderly prototype running on his railway can be seen at

https://www.youtube.com/watch?v=QkesTWt2Pu4



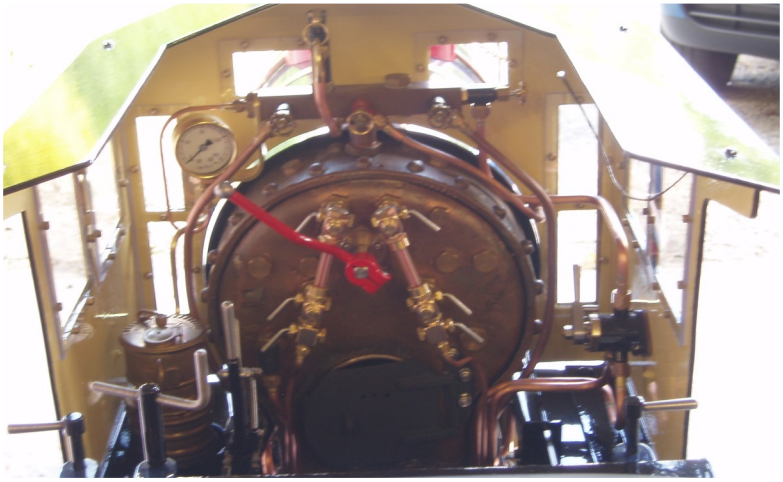
Thunderbolt **Mark Batchelor**

Some of you may remember the talk I gave about Thunderbolt, the Leeds Grammar School locomotive. Well, she is finished at last!

Just to remind you, the loco was built by a team of pupils as a workshop project in the late 1960's under the direction of Ken Rosewarne (Mary's dad), and was operated by the school's Locomotive Club for the next 20 years or so at club tracks around the country as well as on a portable track at events in a similar way to LSMEE.

After Ken passed away the loco ended up being entrusted to Wakefield SME where it was used as a club loco, but fell into disrepair and out of use. It moved on again to a Wakefield member who did some repair work before offering it for sale.

I spotted the advert by chance and put my hand in my pocket in 2012, since which Thunderbolt has been undergoing a protracted "Heavy General" which is now complete with the aid of the copious free time we all seem to be enjoying at the moment! Just need a boiler test then access to a track to try her out...!!



Further ramblings of a Covid captive! **Alan Macdonald**

I am considering banning my wife from watching "Bargain Hunt"!

In early March we were eating lunch, watching the show and cringing at the purchases that the contestants were sure would make them a fortune. One team chose a miniature, silver rocking-chair. "Oh, isn't that sweet," quoth she-who-must-be-obeyed. "You could make one of those for my birthday!" (May 12).

Other projects emboldened me to put this on the back burner, but, strangely, the rocking chair seemed to be referred to on an increasingly frequent basis. At the same time, affordable ideas for a present were increasingly lacking!

Come Covid isolation more time than normal was available in the workshop, together with the need to honour the aforementioned anniversary. This meant that I should bite the bullet, purchase the materials and get on with it. The tumblers of fate dropped into position when I ordered the material specifying, where possible, hardened rod for the staves; my suppliers provided a coil of softened wire! I mentioned this to them and they announced that since the order had been completed it was now too late! Oh well, better make the best of a bad job, straighten the coiled wire and have a go!

I constructed the backrest without undue complication and thought, "Perhaps this project will be a goer!" but just when the mass of metal was beginning to accumulate, and an appropriate heat source for soldering was required, the gas bottle on my Rothenburger blowtorch became exhausted!

SOD!

Several years ago I purchased a large, non-functional Micro Welder from a goldsmith who decided to retire after this unit had literally blown up. (He had used Vaseline instead of a gasket at the joint on the atomiser!) I'd had the brute repaired and, since this was my only source of a flame with enough grunt to complete the soldering of the rocking chair, I had to use it. Problem: once the Micro Welder is warm and up to full output, you practically need to open the workshop door to accommodate the flame! With the remaining components complete, the challenge was to solder them together without melting them: the gaps being barely big enough to accommodate the flame, you understand.

Finally I soldered the thing together without any major catastrophe, but was left with the problem of polishing it.

Carefully.

Having first boiled it in H2SO4 2m I set about it on the large polishing lathe. Working lengthwise along each stave seemed to be the way to go and, yes, the result was quite pleasing. Achieving a decent finish on the seat, however, proved almost impossible. Eventually I resorted to my flexible drive dental hand piece, and polished the interstices using burrs wrapped in cotton wool coated with jeweller's rouge! Aargh!

And for my next trick.....

"Bargain Hunt" will forevermore be forbidden entertainment.

Axlebox Drilling — John Charlesworth

I purchased from the estate of one of our deceased club members, John Coomber, a rather nice LMS 8F locomotive in 31/2" gauge. The locomotive was well used requiring, a complete strip down, clean and repaint to make it presentable. I knew there were some issues due to wear, but I decided to tackle these as I went along.

Fortunately, the tender was in good condition mechanically and after a good clean and repaint the tender only needs the BR crest transfers applying.

The locomotive requires more attention and I am trying to do the work in a logical order.

First things requiring attention were the two rear axles and axleboxes. They are placed under the firebox and have been seriously worn by grit and ash. The two leading axles and boxes were in good condition.

To remove the four damaged axleboxes, I hacksawed through the centre of the two axles and, removing the axle boxes, the wear was plain to see and both axles and boxes were scrap. Fortunately, the horn guides were un-worn, being made of cast iron.

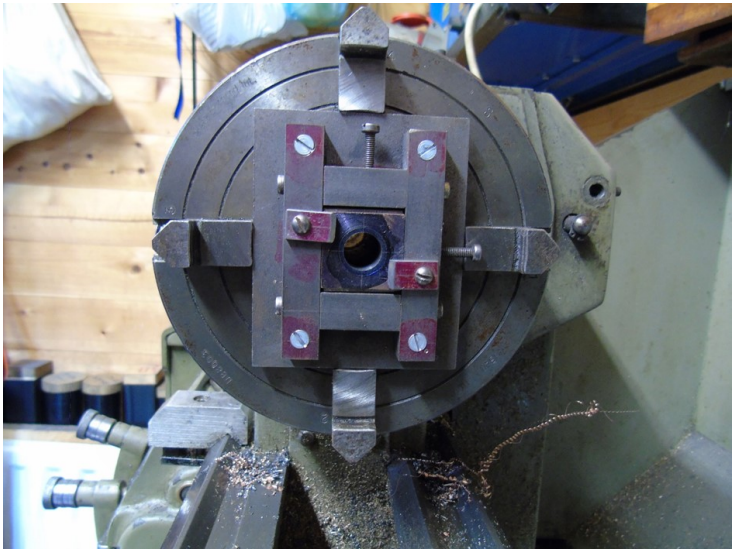
Looking in the materials store, I found some cast iron which was approximately the right size to make the boxes, and plenty of ms bar of the correct size for the axles.

To remove the axle stubs from the four wheels, I made a suitable punch and carefully drifted the stubs out of the wheel centres, being careful not to damage them by using too much brute force. They had been fitted by the method I use namely, Loctite.

I produced four identical axlebox blanks on the milling machine and hand fitted them to the horns. Each was carefully marked to identify its location. Fortunately, the distance between the sliding faces was the same for each one.

I was in a bit of a quandary as to the best method to use to produce the axle bores as they need to be identical. I looked on the internet (that very useful workshop tool) and found a method using a very simple jig (or was it a fixture?). I made this out of bits and pieces I had to hand and the finished article is shown set up in the 4-jaw chuck.

To start the process off, one of the box blanks was carefully marked out using a height gauge and the axle centre lightly centre popped. When marking out it is necessary to allow for any discrepancies in my machining. The marked box was placed in the jig with two identical strips of mild steel bar placed in the grooves. It was then clamped in position using the two screws which are set at right angles to each other. As an added precaution, two clamps were fitted to ensure that the box could not be pulled out of the jig by the drilling/boring/reaming operations. A 'wobbler' centre finder was set up with the pointer in the pop mark.



The 4-jaw chuck was carefully adjusted to ensure that the pop mark was running true. The axlebox hole was drilled, bored and reamed to size. I always use a small boring tool before reaming to ensure that the finished hole is correctly positioned.

Once this operation was complete the axlebox was removed from the jig, ensuring that the 4-jaw chuck setting was not disturbed. The next axlebox was secured in the jig making sure that it was orientated correctly, remembering that axleboxes are 'handed'.

The final two were treated in the same way. Carefully measuring the finished axleboxes indicated that the four holes were identical plus or minus a couple of 'thou'.

Altogether I was happy with the end result and will use this method again if I have to make some more in the future.

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LSMEE - Dates for Your Diary – 2020

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

E-Newsletter

Articles are always welcome and can be sent by email to

leedslines@gmail.com

LSMEE Website **http://www.leedssmee.btck.co.uk/**