



West Wiltshire Society of Model Engineers Newsletter

Issue No.34 January / February 2024

Calendar

January

6th – Saturday Steam Up. 10am-4pm.

16mm Indoor Running.

17th – Wednesday night talk cancelled. Apologies from the committee.

20th – Saturday Steam Up. 10am-4pm.

*16mm Indoor Running subject to sufficient registered interest.

February

3rd – Saturday Steam Up. 10am-4pm.

16mm Indoor Running.

7th – How to run a full size traction engine by Simon Nuttal 7:30pm.

17th – Saturday Steam Up. 10am-4pm.

*16mm Indoor Running subject to sufficient registered interest.

21st – "How (not) to get started in model engineering", a beginners guide by Peter Pearson. 7:30pm.

March

2nd – Saturday Steam Up. 10am-4pm.

16mm Indoor Running.

6th – The Hayfield branch line and the mass trespass on Kinder Scout by David Clarke 7:30pm.

16th – Saturday Steam Up. 10am-4pm.

*16mm Indoor Running subject to sufficient registered interest.

20th – Show and tell your latest projects.



News

New Ash Disposal System

By Terry Neary

Each of the steaming bays now has a facility for receiving ash from steam engines. A tray slides under the track to receive the ash pan or ash from any locomotive.



This should obviate the need to have a wheel barrow in the steaming bay. After use, dispose of the ash in the usual manner and return the pan, inverted, to the stowage area behind the workshop.



Driver Training Day

By David Adams

I attended the second WWMSE Driver Training Day on 25th November. The weather was extremely kind to us and we were greeted for our 9:30am start by a cold crisp sunny morning at the club site.



The morning began by an excellent presentation and slides given by Peter Pearson in the Clubhouse.

Peter worked on commercial steam boilers during his career and I must take this opportunity to thank Peter for putting the effort into such an excellent and informative presentation for our club. I'm a Chartered Mechanical Engineer as my 'day job', built my own 3 ½" steam engine and boiler and have driven it as regularly as I am able at the club track over the last seven years and there was still plenty for me to learn from Peter's presentation.



We then proceeded out to the steam bays and split into two groups to put Peter's Ajax and the Club's Polly into steam. This then followed by taking it in turns to drive the steam loco with tuition from Peter and the more experience drivers available on site during the day.



It is planned to run more driver training days in 2024 and I would thoroughly recommend that ALL drivers whether experienced or aspiring should attend.



I certainly went home hopefully a more knowledgeable driver and had a very enjoyable day!



Steam Siren

By Chris Wiggins

I have always wanted to fit a steam siren on my 3" Burrell. For those that are not sure what a steam siren is; it is a small turbine, which is usually fitted on the top of the cylinder block of a traction engine (they were also fitted on steam ships). It is recognisable by the trumpet like bell mouth and the distinctive 'whoop, whoop' sound it makes. Scale model sirens are available from the internet, but they cost over £200, so I decided to make my own. About 18 months ago I managed to obtain an article describing a model steam siren, which also had some design drawings. The siren shown on these drawings was quite small and, in places, difficult to make. But it did give me the information I was after, which was the design of the slots in the turbine. I now designed my version of the siren, I increased the size of the siren slightly and incorporated a return spring in the steam valve.

I made all the parts from free cutting (admiralty) bronze, I try to avoid using phosphor bronze as I find it very 'chewy' to machine, especially for threads.



Figure 1

Figure 1 shows the static and rotating turbine (the bronze for holding in the chuck is still attached). I used a dividing head on my mill to cut the 1.5mm wide slots. The short slots you can see in the static turbine are starting slots, these are needed if the slots in the rotating turbine happen to stop in between the slots on the static turbine.



Figure 2

Figure 2 shows all the parts, the small bronze screws are for holding it all together. I tried to metal spin the bell mouth without success, so I resorted to making a series of 0.5 mm steps (inside and out) from a solid piece of brass. I then used the 'chord rule' for a circle ($ab=c^2$) to calculate the diameter of each step and then just filed down the steps to get the finished shape. Figure 3 shows the finished siren.



Figure 3

Now to see if it worked. I connected it as close as I could to the air compressor, as I knew that the air consumption would be high. My compressor is in the shed in my back garden (with a pipe into the garage); and it certainly worked, to the point that my wife ran into the shed shouting 'STOP'. Which I did, and I could then hear just about every dog within the vicinity barking. Subsequent testing showed it would still work down to about

40 psi of air. I now mounted it on the engine, Figure 4 shows the first arrangement.



Figure 4

The siren didn't work; insufficient flow rate of steam. I now mounted the siren directly over, what was, the whistle port, Figure 5 shows the revised arrangement; there was no improvement. I now suspected that the restriction must be within the siren. I opened up the clearances around the steam valve and I milled slots across the internal thread of the bottom mounting adaptor (clack valve style). The siren now worked, be it intermittently initially. It was clear that the steam was too wet, so I waited about 15 minutes for the cylinder block to properly warm up, and the siren now worked very well. If not too well, it was VERY LOUD! To the point that a neighbour commented as he was getting into his car 'I assume you are responsible for that noise'. A successful outcome.



Figure 5