



INSIDE MOTION

News and Views from the
TYNESIDE SOCIETY of MODEL and EXPERIMENTAL ENGINEERS
No. 34 April 2023

Preamble

As we move into April we can hope that the winter is truly over and outdoor activities can start to pick up. There will always be the rainfall associated with "April Showers", but hopefully nothing as heavy as previously. The ground really does need time to dry out a bit as the grass is looking very patchy and muddy in well-trodden areas. No doubt the cutters will be wanting to be out ere long.

Club matters

Harrogate Model Engineering Show



The general consensus seems to be that this was a success, despite the challenging weather which brought heavy snowfall to the area. Attendance was inevitably down from expectations on the Friday, but picked up well enough on the Saturday. TSMEE fielded a large display (probably the largest) showcasing a good variety of its member's craftsmanship and interests, and a poster display of the Club's historical development added background interest. The team that grafted to put it together (you know who you are !) should be congratulated and thanked for an excellent showing. It seems very likely that the event will take place again next year.

Public Running

Sunday April 2nd sees the commencement of the new Public Running season. Users of the raised track are reminded that locomotives must be on-site and the loading area cleared of vehicles by 10:30. The ground-level track will, of course, be fully occupied.

Garden Railway Extension

Slow but steady progress is being made with laying track. The two long straights at the back are now in place, along with the pointwork which will connect to the two loop sidings. Filling in the remaining curved sections is next on the to-do list, and then, finally, re-instating the steaming bays and extended sidings. A brief period of testing will follow to ensure that everything is free-running.

Member's Musings

Master Builder

Jim Nolan

As usual, but with a lot less trouble post-covid restrictions, I have been in the USA for the Riverside and Maricopa Fall meets. Rather than cover the two meets I thought I would describe a visit I made to Jack Bodenmann's shop.

Jack is a commercial builder of locomotives, generally he prefers to detail the locomotives so supplying him a running chassis and boiler is normally his preferred starting point. Jack also supplies into the hobby as he has become a proficient lost-wax producer of detail parts. I went up to his shop near Tehachapi with Jim Kreider where Jack is completing Jim's Berkshire, 762



Jack's shop with Jim's 1.5" scale Berkshire dwarfing Jack's 1" scale NYC Hudson.

Jack is proposing to retire after the completion of Jim's Berkshire and from then on just supply detail parts. He is also building his own high line in 4.75 gauge. What we would call sit astride 5" So as this is his swansong and Jim's design has brought him much work over the years he is going all out on the detail.



3/4 view NYC Dreyfuss streamlined Hudson (4-6-4)

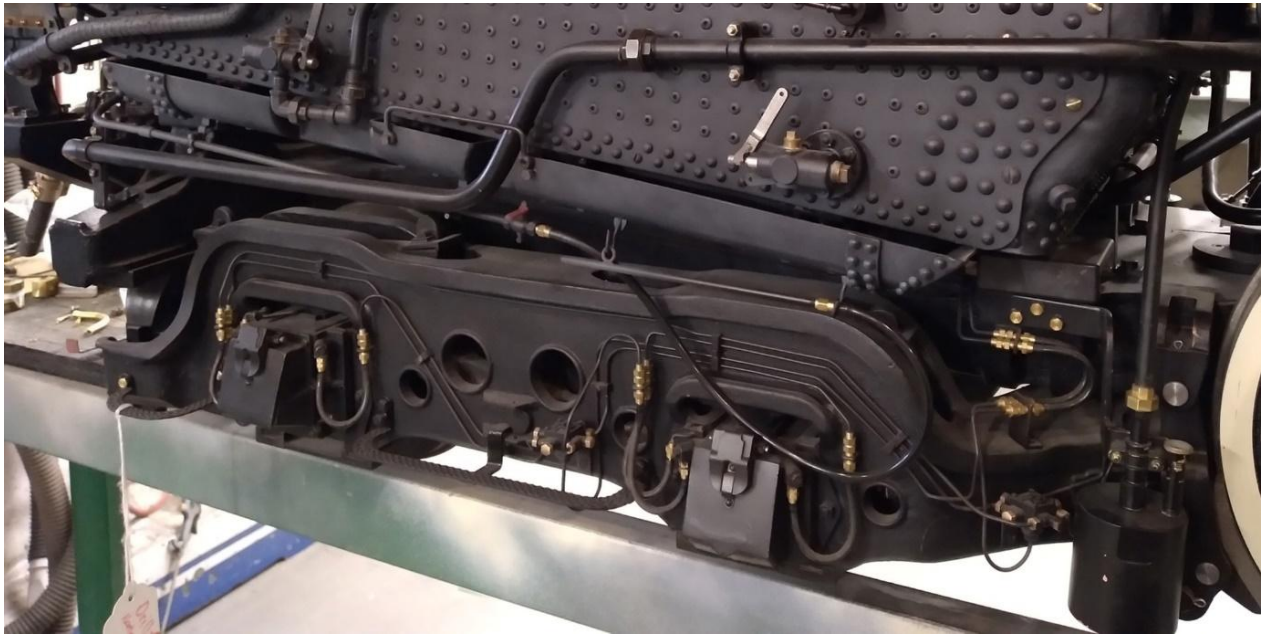
Another example of Jack's work, a 1.5" scale NYC Hudson with Dreyfuss streamlining. The air compressor shroud and pilot were all hand formed from sheet steel.



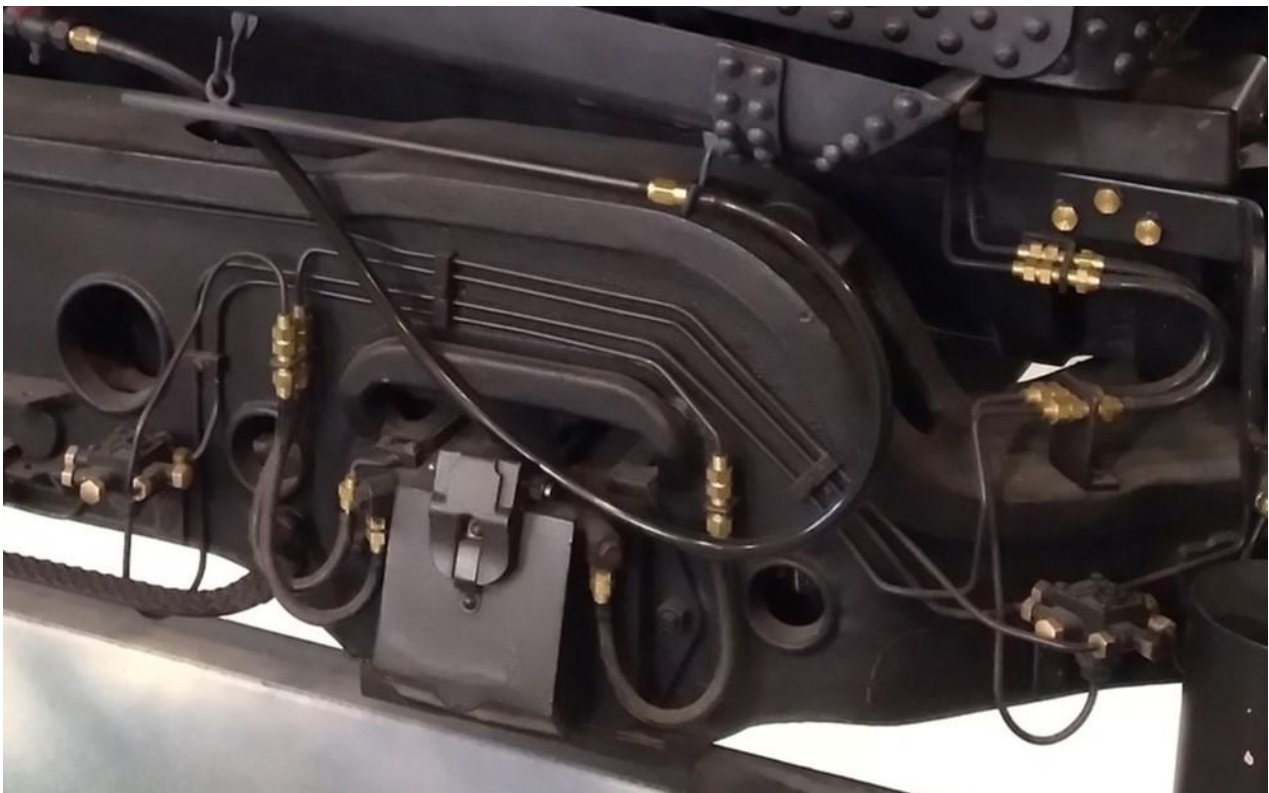
Detail work on the Hudson casing

762 is in the very late stages of completion, when I was there a date of the end of December this year was being touted as the delivery date. So, all the photographs are a work in progress.

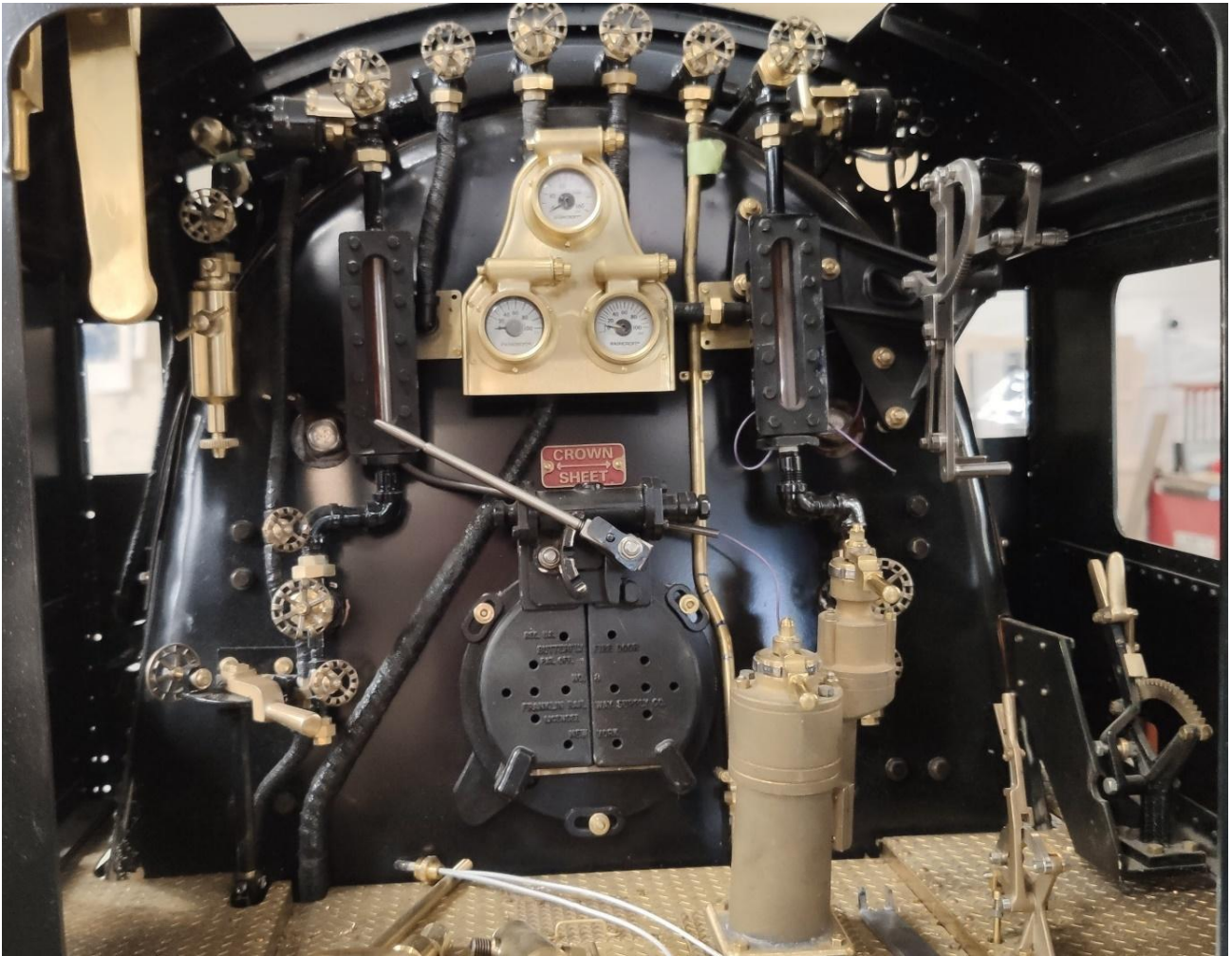
Typical of the detail being added is grease pipes. With a locomotive built in the 50's modern pumped lubrication was used all over the locomotive. Typical of this was the trailing truck. Where jack has added full grease pipes and metering valves



Lubrication to trailing truck



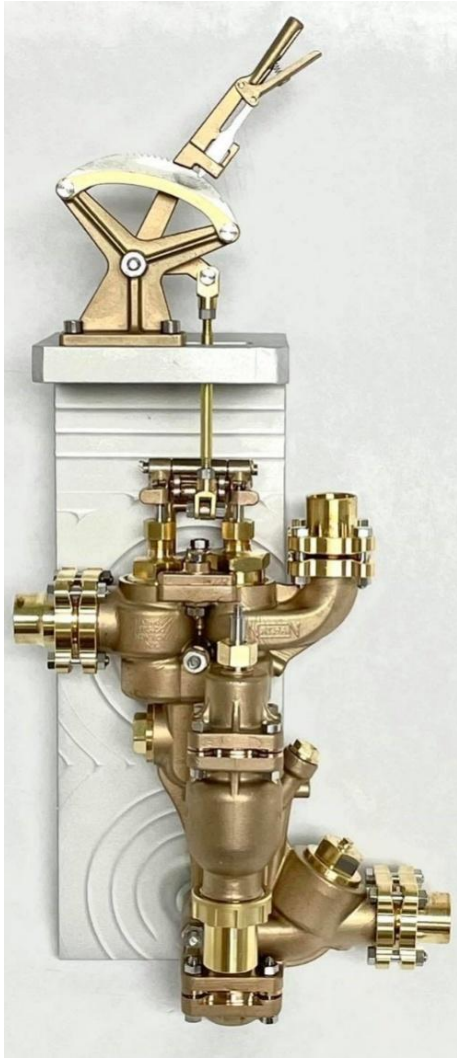
Close up showing metering valves, distribution valves, pipe clamps etc., and also in the picture the steam wand for blowing out the grate when cleaning. The valves are commercially available - everything else was fabricated.



The Backhead

The backhead shows a number of the bespoke parts Jack has manufactured for 762. Central is the air brake panel with gauges for the reservoir, train line and locomotive. Lower right is Jacks brake stand with independent train and locomotive valves. To the right is the reversing quadrant and above this the throttle quadrant all made by Jack. The third quadrant is for activating the Nathan 4000C which comes with the injector. Lower left is the handle for Jacks metering valve for the diesel burner. Above that is the lever for the whistle.

The Nathan 4000C injector sits under the cab operated by the quadrant as mentioned. The steam and water lines have a flexible joint in the pipework and true to prototype Jack manufactured flex joints for the lines. Anthony Duarte of Eccentric Engineering manufactured the 4000c injectors making a run of 25, I picked up No1 at the 2021 Fall meet. Testing of the injectors can be viewed here <https://youtu.be/vddPlxaJY0k>



4000c Injector showing
Operating Quadrant



Injector with Barco flexible joints



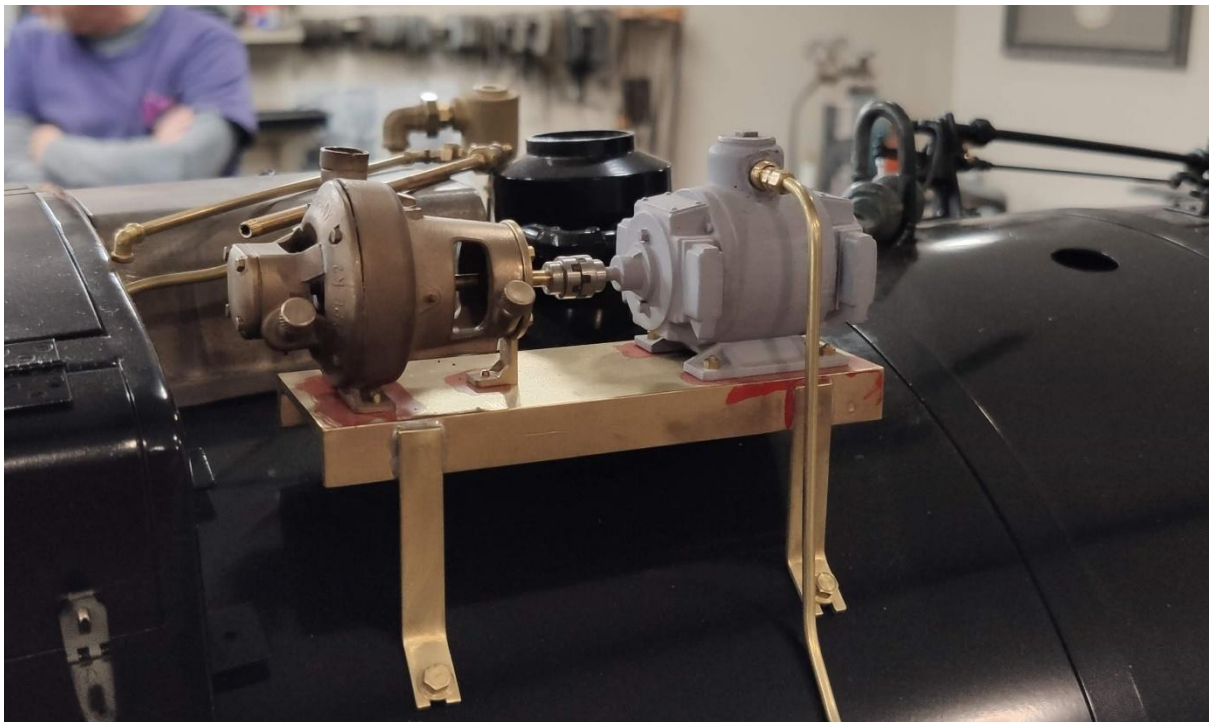
Fabrication of the flexible ball joints

As we all know American locos are often described as having their insides on the outside which generally isn't what we are used to in the UK. The other thing modern American steam was famous for was hanging on every appliance know to man. British builders were just as guilty of this but they were generally exported to the colonies. These appliances are another area Jack excels at.

So, to finish off what is getting to be a lengthy article, some examples of Jack's appliance work. First off the steam generators. Berkshires were fitted eventually with three steam generators, the original closest to the cab was a Pyle National MO-6, forward of this was the Pyle National K2, then on the right was the K2A turbo alternator. They powered cab and headlight, MARS light, and radio respectively. Interestingly the MO-6 and K2 were all built under licence in the UK by J. Stones and Co. of Deptford for locomotives exported throughout the Empire.



Both the K2 and MO-6 are commercially available as kits. Jack manufactured the turbo generator using parts from the K2 and a lost wax casting for the alternator. Pipe work and mounting shelf and shaft coupling were also made to suite the installation.

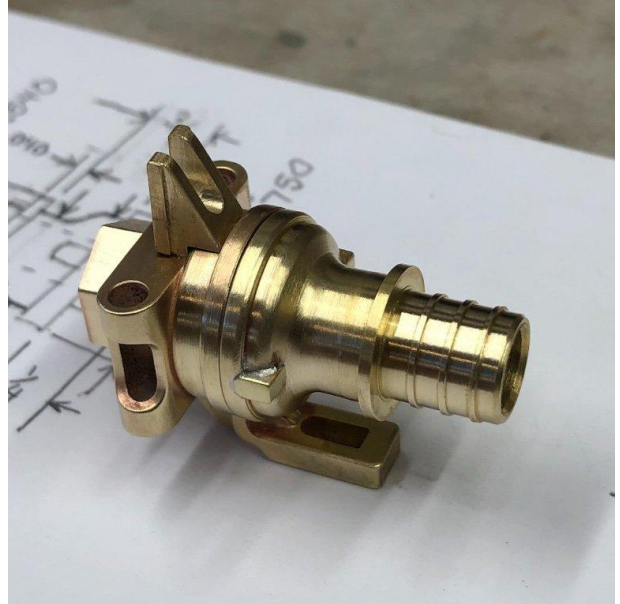
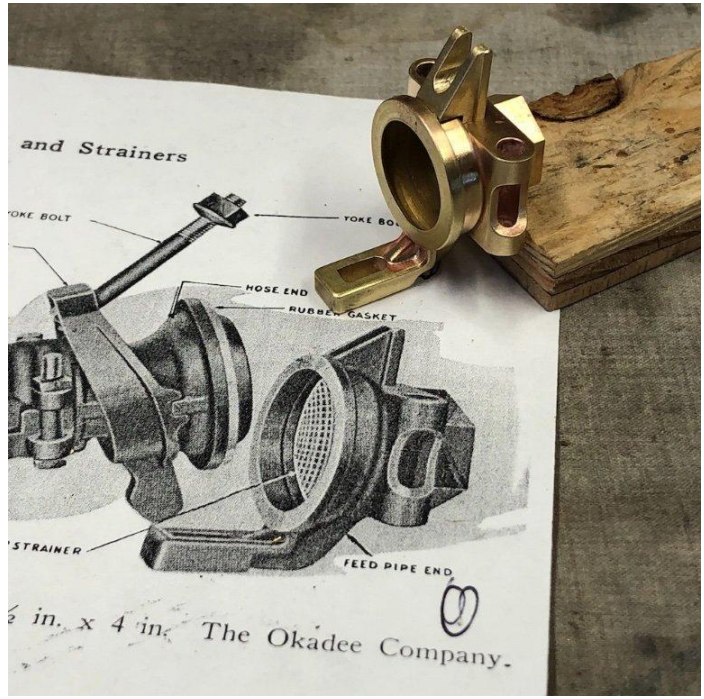


Turbo alternator and mounting shelf



762 has steam-operated cylinder drain-cocks, Jack made a cab-operating valve and mounting bracket for them, 0-80 is roughly 10BA

To quickly run through other detail parts made from Jack's moulds and fabrications.



A fabricated Oakadee quick-disconnect water coupling and below the low water alarm.



Lastly a modified headlights with twin sealed beams on a new MARS mounting plate inside the Pyle headlight casing. Above is the MARS light which is a forerunner of the yellow flashing light we see everywhere these day. Using a mechanical linkage, the light followed a figure of eight pattern. Here electronics enable the light to mimic that path.

Why a noisy steam locomotive with a clanging bell in the yard and elsewhere the Americans love of hanging on the horn. Needed a flashing light is beyond me. Perhaps an early manifestation of H&S gone mad.

So that was Jack's shop. 23 I hope to see 762 out on the rails with an opportunity to pull the throttle.

Postamble

This issue has gone out a bit early to carry the Public Running Day reminder for those of you who want to use the raised track.

My thanks to Jim Nolan for another epic "American" report, and particularly for waiting so long to see it in print !

I have a small amount of copy for the May edition, but can always do with more. After that, well – you know the story by now

Contact information

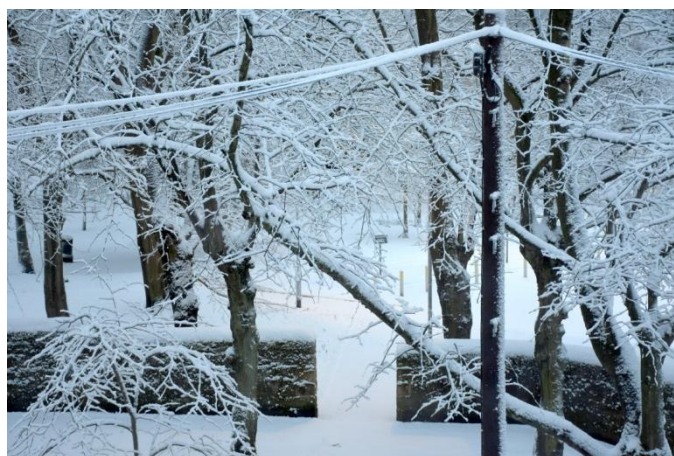
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Some more Harrogate Pics



Friday Morning