# **ASSOCIATION OF SHREWSBURY RAILWAY MODELLERS**



Southern N class 2-6-0 at Alresford on Mid Hants Railway c.1980

#### JUNE 2021 NEWSLETTER

It is like magic! Ten days before the newsletter is supposed to go out, I had just one promise of an article. Following a plea to you all for material, excellent and varied articles flooded in. Some articles have been kept over for the July issue, which I shall be editing, if you want to send in something.

With things not exactly clear yet, with second jabs and Indian variants chasing each across the country, we are starting to form a tentative plan for live meetings. We cannot use the same room at Priory School as before and in the absence of anything better, we are planning to meet in the school's Business Centre at a slightly earlier time in the evening. We hope to start in September but we will have to keep you all informed as things develop. The first meeting will probably be 'What has been on my bench for the last 18 months!' I know some members have been very productive during the lockdown. Anyway, bring something along, to show everyone else what you have been up to. We will also need to fit in an AGM fairly soon after resuming to discuss a few tweaks to the Constitution and to explain the subscription news. Whatever is planned, we shall keep you informed as things develop. Meanwhile, if anyone has any suggestions for alternative venues for our meetings, as the Priory will now be *considerably* more expensive, let us know so we can investigate. Ideally we need space for about 30 members, the chance to make tea and coffee and either a data projector or large screen monitor to plug into a laptop.

Nick Coppin

## A Loading Bunker

Most of the output (including high quality coking coal) from Broompark Colliery that features on my layout, was distributed by rail to the coke ovens in the south of Durham county (around Bishop Auckland) or to the Consett iron and steel works in the north west of the county; some would also have gone to the steel works around the Tees and Hartlepool. A small amount of output would also have been distributed by road to local coal merchants around Durham city and the surrounding villages. Thus, a further item of colliery infrastructure that has been awaiting construction was a relatively small loading bunker for road vehicles from the otherwise rail-served colliery.



An internet search soon came up with a suitable prototype from the nearby Sacriston Colliery (see hopper on left of this pic) and although working from a poor image it was possible to determine enough of the proportions of the structure to make something that would hopefully look the part. The first step was, as with previous scratch-built structures that I have built, to create a card mock up from an old cereal packet. Size and proportions were scaled from a suitable road



going to be basically a box on stilts, it was relatively simple to create a model (including a tab to fix the thing together) from a single piece of cereal packet. I suppose I have to declare a parental influence here in that both my parents trained as architects, and from an early age I had been fortunate enough to be taught some of the basic principles of architectural drawing. That said, such a background is absolutely not essential but it did give me the confidence to have a go, and I was able to draw reasonably accurately all four sides of the structure onto my card. The next step was to lightly score the bends with the back of my Stanley knife and a steel rule. I then cut out the card between the legs and folded the structure round on itself, using the steel rule as a former. NB the gable ends were built into the final drawing.

Having checked that scale and proportions looked acceptable on the layout, construction began. From the original photo, the prototype looked to have a steel frame, with brick built lower sections to the hopper, and corrugated sheet for the upper walls and roof.

The plan was to use 40thou styrene card laminated with Slaters embossed brick (using double sided-tape rather then solvent/glue to reduce the risk of warping) and to use Wills sheets for the corrugated surfaces. I have previously written about the strengths and weaknesses of Wills sheets; the accurate cutting of the corrugated sheets certainly added an extra challenge on this project!

The four faces would be constructed separately working, somewhat counter-intuitively, from the top down. (See pic right) I chose to work this way to exploit the inherent rigidity of the Wills sheets as I was making up the sides. Two of the sides would have the steel legs running from ground level up to the roof line and I used square section styrene from Evergreen for this. The other two sides would just be the in-fill.

The various sheets of styrene were cut out and this is where accuracy of both initial marking out and subsequent cutting really pays dividends. I always use a sharp pencil with a hard lead (3H as a minimum) for the marking out on the styrene and follow (not always successfully) the adage "measure twice, cut once."

The edges of the Wills sheets needed to be filed and shaped to remove mould lines and in the case of the bottom edge of the two roof sections, the edge was chamfered (using a pretty large file) to create the impression of thinness on that exposed edge.

For the brick wall sections, the 40thou styrene backing for the brick panels was cut to size, but the embossed brick sheets were deliberately cut slightly over size, as I feel I can get a far sharper edge by trimming the thin brick sheet against the styrene (with a sharp Swann & Morton scalpel blade) rather than trying to cut two perfect fits separately. The double-sided tape was applied to the 40thou styrene



which was then in turn applied to the embossed brick which was lying of a flat surface face down. The overlap of the brick styrene could then be trimmed close to the backing sheet. (See pic right before trimming.)

With the various Evergreen uprights and other sheets ready, the assembly was carefully put together using Revell Contacta liquid cement. The bottle has a relatively fine steel applicator tube which I find ideal for working with the thickness



of Wills sheets (although I use butanone and a paintbrush for finer detail work such as on rolling stock.) The sides went together relatively quickly with corner braces on the inside. Frame work strapping (thin pre-cut Evergreen strips) was added on top of the brick sheet and concrete foot pads were sculpted from small squares of 60thou styrene and attached to the feet of the structure. (See pic )

This was then left to harden overnight before the roof sheets were added and painting and weathering could begin.

I spent some time looking through articles from model magazines and other sources about how to weather corrugated materials – some outstanding examples can be found, but it is also fair to say that there are some less than outstanding examples to be seen, even on some exhibition layouts. It was not long before I went back Martyn Welch's trusty bible of weathering, and I basically followed his steps. Key to his approach was to highlight the tops of the corrugations and to flood darker paint into the troughs. He also provided good advice about rusting and discolouration at the edges and along the lines of bolt fixings.

I set to with my Humbrol enamels starting with dry-brushing a light grey across the



The brickwork was weathered with thin enamel washes of dirty black on top of a base coat of Humbrol brick red with a touch of orange here and there. The strapping was painted a matt dark green and then itself toned down with darker washes. corrugated ridges (not uniformly – see left) and when dry, flooding the troughs with a dirty black thin wash. This was left overnight and then final touch up detailing was applied with a mix of (subtle) rust shades of paint, finished off with various weathering powders, my current favourite being 'Russian Earth' (!) from MIG. [I had relatively recently discovered the superb ranges of pigments from the MIG, VALLEJO and AK Interactive ranges; the choice is huge but you don't need many, and they all come in bottles which is far better than the flimsy plastic packets from Carr's.]





The metal clad conveyor belt structure (shown left) had been constructed some time ago, using a mix of Wills sheets for the sides and a corrugated roof curved to shape by softening styrene sheet in very hot water and then curving it on a broom handle. The support lace girders are from the Plastruct range. It has been a while in the making but pleased to have finished another component of the layout.

Gordon Woods

## 00 loco kit build by an N scale man!

I was recently asked to build a 00 scale loco for a friend at P3MRS. As I changed to N scale many years ago from 00 this was really a blast from the past and brought back many memories (good and bad)!

The kit was a South Eastern Finecast Southern region E1/R class 0-6-2 tank loco. He had been given it but hadn't the experience to build it. The kit had been stored for many years and included all the parts required to finish it. Many of the parts were extra to the original kit and the previous owner had thought of everything .

I have always struggled with getting chassis to work properly so started with what was to me, the most difficult part. I needn't of worried though, as the chassis went together very easily and ran as sweet as a nut. There was a decent motor and gearbox together with Romford wheels. I remember when I built 00 kits many years ago when they came with some really iffy wheels and motors but the parts with this kit were a different class all together.



The rolling chassis before the motor and gears were fitted. The running plate is attached for clearance adjusting. At this stage I hadn't found the issue of trying to fit the body to the running plate.

A start was made on the body where problems were encountered. The issue was that when the tanks were joined to the boiler/smokebox the base of the tanks were below the base of the smokebox which meant that the running plate wasn't straight if attached to them. I took the parts into the club and showed the issues and we decided to take about 1 ½ mm from the bottom of the tanks to get the loco assembled. A few other niggles were dealt with but they were not as bad as the tank issue. There was a lot of chopping about on the footplate to get the motor to clear the whitemetal body and the boiler backplate couldn't be fitted. With the motor protruding into the cab I sourced a driver and fireman to hang out of the cab so as to hide the visible motor.





After the final fitting of the body to the running plate the loco is seen fully assembled and ready for bench testing.

Once I had tested the loco on a short piece of borrowed track, I dismantled the chassis and cleaned everything ready for painting. Priming with Halfords grey primer was followed by quite a lot of filling which was needed at the joints followed by rubbing down and repriming.



First coat of primer has been applied and the start of filling the gaps can be seen.

Halfords satin black was used for the body colour followed by Fox transfers and a brushed coat of satin varnish.



Almost finished. Transfers yet to be completed but I seem to have forgotten to photograph the completely finished item!

Altogether not a bad construction project and I'm pleased with the finished item. The owner also liked it, so all is well with the world! It hasn't made me go back to 00 scale though. Ian Payne

# Earl's Hall's Hall & a Miracle

As reported last month, although each of the 12 sections of the layout were now connected and operational, there had been little achieved in the way of scenery. One of the obvious omissions being that, although the layout was named Earl's Hall, no hall was in evidence. This had to be corrected and I found that Scalescenes had exactly the right building to fit the space available, albeit described as a Castle/Folly. I have made enough follies during my lifetime such that one more should come quite easily. Scalescenes models are not quick to do, but many evenings were passed more enjoyably making what I shall now call a Hall, than trying to find something funny about today's brand of humour offered by the television.

Constructing the link to connect the main running lines with the MPD had left a sizeable corner which lent itself to the building of a mound onto which the hall could sit. A mixture of Kingspan and polystyrene was used and roughly sculpted with a fine saw and finely serrated knife respectively. The result was then glued down using a brand of quick setting PVA, appropriately named "Jet Set". Then came the interesting arty crafty bit of applying a plaster coating to simulate rock faces at a lower level and a flat seeded area around where the hall would sit. For this I used lightweight filler which can be applied in various consistences to suit the surface required, sets at reasonable depth of fill and weighs nothing. Several manufacturers now market this product and Boys and Boden sell it as "One Strike". For the construction industry, being able to fill deep holes in one go is the advantage, but for us modellers the lack of weight is the key factor.

With a relatively large expanse of grassland, I had the perfect reason to try out my new toy – a static grass applicator. I had attempted static grass from time to time with a cheap tea strainer type without sufficient success to impress me, so now with a more expensive one from Green-Scene together with basing and layering glues I was "good to go". Working in N gauge I had considered 1mm strands to be of enough height for grass but frankly this offers little improvement over traditional flock scatter. I therefore used 2mm as an overall base and then sprayed individual areas with layering glue and applied 4mm strands, mixing colours to create what I hope provides a reasonably realistic representation of ground cover.

I had left just enough room behind the long straight section to simulate a shallow cutting with a flattish top about 5mm wide – again, I have tried to cram in too much track! This was too narrow to apply static grass and so I hit upon the idea of pasting the basing glue onto polythene, shaking the static grass over, waiting for it to dry and then cutting into strips 5mm wide. The next morning, when the glue had dried, I used a fresh blade and started cutting strips and found the glue base peeled very nicely off the polythene to provide an ideal strip for gluing into position without the polythene backing, that would have needed concealing. Of course I should have realised before that not many glues will adhere to polythene and that this would happen, but the little grey cells had clearly suffered a period of inactivity (again).



We read each month in the model railway press that ballasting was carried out in the 'time honoured way' which assumes a fine water spray is used before applying the PVA mix. Only once have I seen IPA (isopropyl alcohol) mentioned but never my preference, methylated spirit; although I have to admit that meths in a confined clubroom does not find favour with everyone. But it does have advantages over water in that it does not damage paper or card, evaporates quickly and it is cheap -2 litres from Charlie's for £5.99 goes a long way. And,

unlike when I bought some for the Primus Stove in Fort William back in 1965, Charlie's did not require me to sign for it! (Perhaps it was a Scottish thing?)

For further realism a number of trees were then planted. For this location, space being at a premium, trees made from sea-foam were found most suitable. Their spindly appearance being so similar to the typical line side tree. On a club layout we once introduced some tree trunks to suggest some had been felled and this was most effective filling gaps and suggesting ongoing maintenance by the "Fence2Fence" crew. I have yet to get round to this and will also have to think about some line side fencing. It is unfortunate that the Hall extends above the backscene and so this too will have to be addressed at some date. It is never finished, which is good really.



Most of my stock is modern image but with some preserved items from the steam and green diesel period, so what better locomotive to choose to photograph passing the Hall than no: 6956 Mottram Hall, and the photo above shows just that, hauling a rake of Hawksworths.

In the meantime I have been very busy playing trains particularly with a selection of Virgin liveried stock, the pride of which is the 11 car sound fitted Pendolino which even includes their famous announcement about not throwing things down the toilet.



The photo above shows this collection in the station awaiting departure and I wondered what the collective term would be for a lot of virgins. I asked my wife, and recalling our time in Essex, replied without hesitation, deviation or repetition: "that would be a miracle". So we now have the definitive answer: a miracle of virgins; although I doubt it will ever be recognised as such by the OED.

Mike Bennett



## 16mm live steam

Locos on shed at Ian Payne's Firs Garden Railway.

In front is "Leader" an Accucraft product with extra detailing and lining. Peeking out of the shed is a newcomer - a blue Roundhouse Lady Anne.

This photo is from a few years ago and the Lady Anne is now in lined maroon. The rebuild can be seen at <u>https://gscalesociety-mwmgroup.co.uk/Lady-Anne-G-Scale-Mid-Wales-</u>Marches-Group/

## A SCRATCH BUILT MANNING WARDLE TANK ENGINE

It was in 1993/4 that the *Model Railway Journal* produced a series of articles on scratch building in 4mm an 0-4-0 ST, the original having been built by Manning Wardle as their Class F. The design and instructions were by Paul Bernsten, a New Zealand modeller. A pack of lost wax brass fittings could be purchased comprising chimney, safety valve, crossheads and their guides and other bits. I went ahead and set about building the loco. True to form I got a running chassis and a part built body and there matters rested. Another UFO! 25 years after I first cut some brass and started the project, I finally got around to finishing the build in 2019!!

A total of 150 Class F locos were produced from 1869 to 1926 in standard gauge and various broad and narrow gauges. There was a lot of variation in the detailing of the engines such as cabs which went from a simple weatherboard to a totally enclosed structure. The decision on what cab to fit to the loco I was building was made easy by the use of an F on the MSWJR, that I model. The loco had been built in 1894 and was originally owned by Cardiff Corporation at their waterworks in Merthyr Tydfil, being purchased second hand by the Marlborough and Grafton Railway (a subsidiary of the Midland and South Western Junction Railway) for civil engineering works. Named *Beacon*, she became MSWJR property in 1900 and was the Engineering Department loco until sold on sometime during WW1. Its 'cab' was a simple weather board.

There wasn't a lot of room in the body to fit a DCC chip, so I removed the flywheel on the motor (it didn't seem to make any difference whether there was one or not) to provide a bit of space. Every other available space was packed with lead. There is a split frame, so no need to fit pickups, and the diminutive little beast with its short wheelbase and small wheels waddles slowly around the tracks.





#### MANNING WARDLE OF LEEDS

The City of Leeds had a long tradition of locomotive building, starting in 1812/3 when 4 steam engines were built for the Middleton Colliery by Fenton Murray and Wood of the Round Foundry, using a rack system to aid adhesion. No more locomotives were produced until 1831, and around 80 locos had been built by the time the firm closed due to lack of orders in the 1840s.

The firm of Kitson's was established in 1835 at the Airedale Foundry, producing its first loco in 1838 and continuing in production until they went into receivership in 1934. One of the partners in the early Kitson's business was Mr Todd who in 1838 set up the Railway Foundry with Mr Shepherd and traded as Shepherd & Todd. Todd left in 1844 and Shepherd was joined by E B Wilson in 1845 but the latter only stayed a year. The firm was taken over by James Fenton in 1846 becoming Fenton and Craven, but this partnership lasted less than a year, and EB Wilson appeared again taking over the business as EB Wilson & Co with Fenton retained as works manager.

The Railway Foundry was well established and the most famous type of locomotive produced was the *Jenny Lind* 2-2-2 for the Brighton Railway. The fluted dome cover and safety valve casing were to become almost a trademark for Wilson's locomotives. Wilson died in 1856 and Alexander Campbell was appointed works manager, but the works were forced to close in 1858 due to an action in Chancery.

Enter Manning Wardle and Co. Alexander Campbell established the firm with financial help from a local vicar, Mr Wardle, and they were joined by John Manning at the Boyne Engine works. Drawings and patterns from E B Wilson & Co were obtained and the earlier locos of Manning Wardle bore the characteristics of Wilsons designs. Manning Wardle & Co concentrated on building contractors and industrial tank locos and built up an excellent reputation in this field. The firm went into voluntary liquidation in 1926 having produced over 2000 locos. The goodwill of the company was bought by Kitsons, and Hunslet acquired part of the Boyne Engine works.

The firm of Hudswell & Clarke was founded in 1860 and continued building steam locomotives until 1961 and operated from the (new) Railway Foundry. Another firm to establish itself in 1864 was the Hunslet Engine company which occupied the site of E B Wilsons works.



Airedale Foundry = Kitsons Hunslet Engine Works = Hunslet Boyne Engine Works = Manning Wardle Railway Foundry = Hudswell and Clarke

Stephen Duffell

#### Coldstream - a start on the Goods Shed, and learning about brickwork

We've been having some work done on the house for the past few months, and all my railway stuff is inaccessible. So, no actual modelling has happened (nothing new there!), but I have been doing a bit more planning, and have started thinking about how to build the Goods Shed for Coldstream.

Goods facilities at Coldstream were expanded after the opening of the branch to Alnwick in 1887, and a new brick goods shed was provided. As was often the case on the railways at that time, some of the brickwork was quite decorative. (Incidentally, look at the smoke

staining above the track entering the goods shed, suggesting that locos often entered the shed, even though it's "against the rules").



This isn't a particularly clear view, but it's one of the few photographs I have which shows the complete building. Here are a couple of detail shots of the brickwork:



The building is constructed in English Bond, i.e. alternating rows of stretchers and headers. This gives rise to a problem if you want to use embossed plasticard sheet to build the model. My previous (and currently only) model building was the row of station cottages that has appeared in some earlier newsletters (and is an entry into the Plasticard Challenge). These were built in Stretcher Bond, i.e. overlapping rows of stretchers. With this bond, window and door apertures, and the corners of buildings, always line up "correctly", and so it is easy to cut embossed plasticard to give the right pattern. With English Bond however, this is not the case, since the middle of a stretcher does not line up with the end of a header in the course above and below. On the real thing, for strength considerations, this requires the use of various different sizes of bricks called "closers", sometimes also called "closures" or "bats".



Stretcher bond does not require any special closers, whereas on alternate courses, English Bond needs either a) a three quarter closer at each corner/aperture or b) queen closers placed after the first header that is next to an aperture or corner, as illustrated here:



I imagine that sheets of embossed English Bond plasticard exists (though I haven't looked)\*, but because the placement of queen or three quarter closers will be different for each particular building, it would not possible to achieve the correct layout of bricks at the corners and apertures. If you're bothered about such things (and, sadly, I am) then an alternative approach is needed. So, I decided to draw the Goods Shed in CAD with the aim of getting it laser cut using a friends machine. Although the CAD is not especially difficult, it is a bit tedious, but no more so than many other model railway tasks!

This is still a work in progress, but this is as far as I've got: there are separate drawings for each wall of the shed: shown here are the long wall facing the station and one of the ends (the opposite end to that shown in the photograph above), clearly not to the same scale! These are for the "outer" skin of bricks. I will use separate CAD layers for each "level" of the decorative brickwork: 5 layers in all for each side (see photographs).

(\*Slaters Plastikard sell English Bond. Ed)



Much of the area above the decorative "triangle" on the end is redundant, and will be removed before printing.

Below is a detail from the end drawing showing the queen closers on the header courses.



I'm not yet sure what material these will be laser-cut in, but it will need to be quite thin, otherwise the five laminations of material will end up too thick.

Not sure when I'll get around to producing the actual building, but I'll let you know how I get on!

Tim Lewis

## **This History Making Coronavirus Pandemic**

You will all remember what a great contribution the NHS doctors, nurses and support staff all made to help us through the two lockdown periods that this country has had to suffer during the Pandemic.

I am not sure if anyone else got involved with the Hornby's offer, to proudly produce a unique limited edition 'OO' Gauge model of locomotive GBRf 66731 named 'Capt. Tom Moore'. Like everyone, Hornby were inspired by the achievements of the amazing Captain, and were extremely pleased that GB Railfreight, Porterbrook, Procast Foundry Ltd and Railwayana Auctions, teamed up to produce a special livery on one of GB Railfreight's existing Class 66 locomotives.



Photograph of my 'OO' gauge model of 66731 Locomotive

Hornby first launched this model on Thursday 30<sup>th</sup> April 2020 which was coincidentally Col. Tom Moore's 100<sup>th</sup> birthday, and the plan was to initially produce just 500. However, due to great demands by the second day, was eventually called to a halt at 3500. At this stage the orders had generated £140,000 for the NHS Charities Together.

As a company, Hornby say they have never experienced a reaction like that to the launch of a limited addition model, which only goes to show how passionate and thankful everyone feels about the dedication, and in some cases the ultimate sacrifice, that everyone that make up the NHS continue to illustrate.

I was one of the 3500 to receive this model which, arrived in August 2020. The photos I have included show that Hornby have produced a good model, and it will be kept safely on show, and eventually passed on to commemorate what the 'World' experienced in 2020/2021.



The sincere hope now is that with the tremendous efforts that have been made to produce vaccines in such a short period of time, we shall be able to get back to a normal way of life in the not too distant future. Just think, what we have been able to do with computers; Zoom, click and collect, Amazon, eBay and every other shopping outlet that has a website for us to log into? Unfortunately, not all have been in a position to have this helping hand, but those of us that have this access are extremely grateful and very fortunate.

The good news is that as everything is starting to open up, and hopefully the vaccines will be able to deal with any new variants, we can all get back to our monthly meetings at Priory School very soon.

Howard Mainwaring

## **Model Paint Conversion Charts**

On the subject that came up at the last meeting.... Namely the lack of Humbrol paints lately in the shops and the prospect of changing over to Acrylics which seem to be all the rage, I recalled using a very handy Model Paint Conversion Chart online some years ago. It vanished eventually, for what reason I do not know but a quick Google search dragged up a new one at the following address on the internet: <u>Model Paint Conversion Charts -</u> <u>ModelShade</u> If you type in Model Paint Conversion Chart into Google it comes up as the top result.



It's very easy to use and although all the Humbrol paints are listed, they are not in numerical order for some reason so you have to scroll to find the one you are looking for. It then throws up all the alternatives from the different makers... Very Handy. Sadly it doesn't give RAL Numbers from what I can see. I have found in the past when using these paint conversion charts that it really makes you question your colour perception against the prototypes and therefore you find yourself relying less on the painting instructions and more on your eye and judgement with a bit of research.

There are others out there too and the more you use them the easier they become like all matters of the internet.

Scott Stephenson

## **Track-cleaning Wagon**

The best way to keep your track clean, they say, is by doing plenty of running, but it is easy for that to take a back seat when you are in the middle of a major construction period. I have found that a wipe over the rail surface with lighter fuel on a cloth usually cleans things up well when I need to start running again, but it is (a) tedious, and (b) not easy in covered areas, of which I have quite a few. I have been reading for years of the competing merits of different track-cleaning wagons, but have not been impressed by the reviews. Either the wagons are cheap (relatively!) and just do not work; or they work moderately well, but at great expense. Nor do I much like the idea of dribbling nasty fluids at a possibly uncontrolled rate from a tank onto my scenery, which is the method favoured by the more effective machines.

However, a couple of years ago at Stafford Model Rail Show (remember those), I saw a neat little wagon made by Zeller and available in England from Ten Commandments Models. It was not cheap, but nor was it ridiculously expensive, and I liked the way that the two replaceable self-adhesive cleaning pads were small and only acted on each rail. After completing the building of yet more difficult-to-clean covered track last year, I finally decided that this would make a useful Christmas present (which is the way I always justify something that I am not quite sure of buying for myself!).



Then, thanks to Covid, Christmas never happened, the present was stuck down in Hertfordshire, and I only finally received it this month.

The pictures should give a clear idea of what it is like. The weights that hold the pads down on the rail are quite heavy and are freely hinged at the top. It comes with a supply of selfadhesive pads which you cut to size, but apparently further replacements are more cheaply available by using self-adhesive kitchen cleaning pads. (I have not looked yet.) The wagon comes with a standard Hornby type coupling at one end and a European coupling at the other, but they can be simply replaced by NEM Kadee couplings. As I had spare Kadees, but no NEM fittings, I made a suitable (indestructible!) mounting for these, which explains all the white plastic parts.

Does it work? Yes, it has been excellent on all those parts of the layout where it can be run round continuously. I pulled it behind a large, powerful Mallett, and the improvement in electrical pick-up was apparent from the first circuit. Furthermore, the wagon ran well

through the points, with no sagging pad between the tracks to catch on the point activating pins. So I am pleased from the point of view of my regular running tracks.

However, two problems became apparent when I was cleaning my covered storage sidings. While experimenting, I thought I would try dripping a little lighter fuel onto the pads to speed up the process. This was not a success, because the lighter fuel attacked the adhesive on the pads, causing them to drop off, fall under the wheels and cause a derailment at, of course, the least accessible part of the line. As the lighter fuel is not essential anyway, this is not too important. The second problem comes because, although the pads are curved in shape, and should run both ways in theory, in practice they only seem happy running hingeend foremost. Run the other way they quickly catch and derail the wagon. This means that I have to run to the end of the storage tracks and then turn the wagon by hand through 180 degrees before running back out of the track. I have yet to experiment as to whether I can avoid this by adding weight to the wagon, which I think may well solve the problem. I will let you know. In the meantime, I am very pleased that, at least as far as the running tracks go, I have a simple trouble-free cleaning method - you just keep running it round and replace the pads when dirty. Now that is a real improvement!

The next fashionable idea is to rub a little graphite onto the rails, as this is supposed to greatly improve conductivity. Has anyone tried this?

Peter Cox

#### A water tank made from an old Lancashire boiler

In my shameful departure from modelling the Great Eastern before the Great War, I have been drawn into the industrial landscapes of the 1960s and 70s, grubby locos and rusty wagons. In a corner of my circular NCB layout, I am trying the represent the locomotive facilities from Williamthorpe coal mine in Derbyshire. There was no shed, so the most prominent feature was the water tank. As mentioned last month, this was an old Lancashire boiler probably from the mine's winding engine. I found a suitable drawing on the internet and printed it out to scale. The boiler was mounted on three brick piers which I made from Slaters embossed brick plastikard (English Bond, Tim!). By counting bricks, I deduced that the boiler seemed to be about 9 feet diameter. That scales to 63mm in 0 gauge. Something rang a bell. 63mm is a standard size of plastic downpipe. I want outside the workshop and looked at the water butt. I knew there was some spare pipe sticking down into the water. So Reader, I cut it off.



The original boiler drum would have been made from wrought iron or steel plates, rolled and riveted together in four sections. I found an old biscuit tin and cut it into strips 52mm wide and using a GW Models rolling mill, rolled them into a circle and wrapping them around the downpipe, soldered the ends together.





There are lots of rivets; each seam has a double row. I was able to squeeze the tinplate just enough to fit it over the riveter and proceeded to emboss about 1400 rivets.

The four sections were assembled onto the downpipe.



I mounted the pipe in the lathe with wooden bungs to maintain its shape and turned the ends to length and square.



The end most visible, was made by embossing rivets in a circle of tinplate. The blocked off flues were edged with narrow bronze strip, embossed and rolled into circles and then soldered onto the tinplate. The inside of the flange round the end of the boiler was a couple of strips of etched riveted strips I had. I used a combination of solder and superglue to attach everything.

The opposite end had to be deduced from the drawing and photos as it is not really visible. I turned an 80 thou thick piece of plastikard and added two blocked flues. The edges would have been flanged inwards and I represented this by rounding the edge of the plastic.



I turned some top bits from brass and drilled appropriate holes to attach them. As the plastic downpipe is still in, the drum is very strong and has enough thickness to easily drill without denting. A pipe was represented with some 1.5mm brass wire and a washer and that is as far as I have got.



Nick Coppin

#### Best laid plans ---

Responding to our leader's request for copy - what could be easier than that, Tram No 3 for Kevin Hughes's new train set was on the way. All we had to overcome was the risk of boring everyone again with a description of yet another set of bogie frames with a motor attached. Little did I know what was to happen.

Attaching truck side frames to a tram body is done by a very complex arrangement of primary and secondary springs. In this case by six almost (but not quite) identical leaf springs. (Don't you just love this scale modelling malarkey?) Kevin has a new metal guillotine and offered to cut some 10thou nickel silver strips and post them to me via the Royal Mail. Nothing happened, however I did get a postcard saying that a parcel was being held in Welshpool sorting office for payment of customs dues. (Not Kevin's parcel surely ? - not yet anyway - I think that Kidderminster and Churchstoke still have a customs union) So I ignored the card. It turns out - 10 days later - that the stamp fell off the recycled Amazon cardboard packet and postie ticked the box marked Customs due intending to cross out that box leaving the one marked Postage due (Question 1 - when does a tick become a line?) Never mind, we can carry on with turning the wheels. So halfway through wheel No2 (4 required) the Unimat stops. Full stop - no warning - much head scratching; then a distant memory tells me that this happened twenty years ago - it needs a new set of brushes! This time (not in full time employment) I cannot go down to the electrician's storeroom and rummage through the spares box to find two suitable bits of carbon. So I check out eBay. Two brushes - genuine Emco - £26. More twiddling of thumbs waiting for the postman (together with gnashing of teeth and wailing about the costs of things nowadays - you know the story)

Today I have axles in the lathe ready to go - but it's now getting to the stage where I really ought to send this off to our editor.

One of the problems that we have with building something like a Dudley tram in 7mm scale is that you cannot buy an Ultrascale/Slaters wheel. If we want absolute fidelity, we have to make them. However the end requirement is for around 100 wheels so we need to balance out cost, time and accuracy. For the first two cars I used Markits 16mm 12 spoked tender wheels intended for 4mm scale. These are 12 spokes not 8 but with outside frames it's not always possible to tell. The tyre profile is very close to the present day DIN tramway profile (Although it has to be said that almost all the UK systems use different wheel profiles at the moment). The major problem is that the diameter is underscale by 1.5mm - and it shows. So tram No3 is going to run on scratch built steel tyred wheels. We may have done this process before in the Newsletter but here goes again.



Tyres and wheel centres

We start with a brass blank pressed on to a steel axle ( 4mm diameter steel shaft recovered from Hewlett Packard printers ) with a 2mm thick disc of engraving brass, sawn roughly to shape. I don't use nickel silver- it's too tough to cut with the spoke saws. I use a Black and Decker vertical drill stand to do the press work, first tapering the end of the shaft and starting the hole in the brass blank with a taper reamer. The axle and blank are then soldered together. I use 185 degree *soft*, not silver solder because I want to keep a bit of hardness in the brass blank, otherwise the spokes will bend when the tyre is fitted. Skim the wheel centre to the right diameter to fit steel tyres. We have a form tool for RP 25/110 which is closer than the Markits version and gives us a 3mm tread which is spot on.



Turning wheel blank

Leave the tyres off for the moment and cut the spokes using two circular saws mounted in the Unimat .



Cutting spokes

I hope that the picture will explain the process. The triangular bits are sawn out leaving the spokes. If the wheel was intended to be in an inside framed bogie then the boss would be added and the little bits left in the centre between the spokes would be filed down to be exactly circular. It helps to have a filing jig - simply made from a hardened steel disc - which fits over the end of the axle.

The tyre is bored out with a lip on the inside edge, this will catch on the side of the wheel blank and ensure that the tyre is aligned with the centre. (The boring tool goes in by the thickness of the wheel blank + the overhang of the rim on the spoke, in this case 2mm + 0.25mm) I use an 80 watt soldering iron to solder the outside of the spoke to the inside of the tyre. The wheel is left in the lathe while I do this, and I solder two spokes on opposite sides, check that the wheel runs true, solder 2 more at 90 degrees to the first and so on until all are fixed. I use 185 solder again and work quickly so that the centre is not affected. At this point there are a lot of unsightly solder blobs, however a few minutes work with a small chisel or a scalpel blade, will produce a nice radius on each spoke where it meets the rim.



This is a picture of Bishop's Castle No1 (GWR 517 class). Although not relevant to Kevin's tram it does illustrate the wheel reasonably well. The smaller wheel is soldered to the tyre as described above. The driving wheel is flangeless because the pattern was used for lost wax casting in brass with a steel tyre to be fixed afterwards. I had 8 copies made, it's a lot easier.



Baltimore truck and wheel

Another contentious issue for us concerns the speed of these vehicles. The last mile or so of the Kinver Light Railway was subject to a speed restriction of 16mph. This means that a tramcar should take 16 seconds to run the 30 ft of the layout from terminus to fiddle yard. The performance of the first two vehicles has demonstrated the we were right to fit gear ratios of 80:1 (15:1 Branchlines worm/gear sets on the axle and rubber bands with pulleys from the range made by Nigel Lawton on the motor.) The motors are bought from Mark Clark who trades as Locos'n'stuff and are Chinese copies of Swiss can motors with precious metal brushes and commutator together with some excellent bearings. These little motors are moving a substantial load (over 300g for the 4w cars and 400g plus on the bogie

vehicles.) Apart from their small size they also have the advantage of being one quarter of the price of the Escap/Minimotor equivalent. On the down side they run very hot and we have destroyed the first one after 10 minutes of continuous running (deliberately it has to be said). The alternative is to fit a much larger motor in the tram body, which we have decided not to do. The present motors are a 10mm cube and even at that size are still noticeable under the front platform. The motors will have to be treated as 20% duty cycle - 20 seconds running time and 80 seconds off. We realised along the way that this is what happens in our fiddle yards anyway. The question of duty cycle brings me right back to my Unimat, which has functioned very well for 40 years - 8minutes on 2 minutes off. Together with an explanation of why I have done almost nothing this last month.

Best wishes everyone.

Trevor Hughes



## Free to a good home -

I have unearthed a large collection of Peco OO backscenes, as shown in the photograph, intended for a layout long, long ago. As well as the strips, there are quite a number of separate buildings, which mostly appear in a pile on the left (I ran out of space/time/interest to spread them out). They are in good condition, but sadly in no way suitable for my American background. If anyone is interested please contact me. (You could fetch them, or I could bring them to the July meeting.) Peter Cox