The L.B.& S.C.R. Modellers' Digest

Issue 12

Christmas 2020

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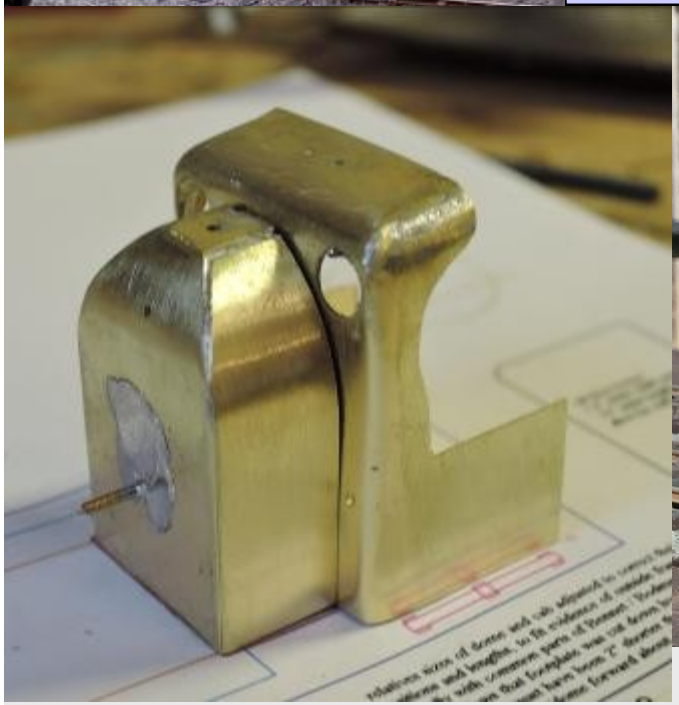
A journal of the Brighton Circle, for those modelling the "Brighton" in all scales and gauges.



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Editorial

First, it is appropriate to welcome the new Chairman of the Brighton Circle, Dave Searle, who was elected in a “virtual AGM”. In the article entitled Lewes 1886, Dave describes the construction of the station throat at Lewes in 2mm FS. Thanks also to Mike Cruttenden, who has been the long standing Chairman of the Circle and who has established it as the authoritative historical society for all things Brighton. Mike’s series on his garden railway continues with some new civil engineering and we look forward to further developments.

Lockdown, combined with some beautiful weather which is now a distant memory, has resulted in three items on garden railways. And the Brighton Circle’s online meetings, also stimulated by lockdown, have generated a series of articles, which are grouped under the collective title Virtual Blatchington 3. These articles document the projects described in the Zoom sessions, which are likely to become a regular event for Circle members.

The pre-grouping period becomes ever more accessible to modellers with a string of new RTR releases, including new editions of the Terrier and the H class Atlantics. Nick Holliday’s article on Hattons’ Genesis 4 and 6 wheeled carriages suggests that they may not be quite as generic as they claim!

There is lots more great modelling, which I hope will be of interest to all modellers and not just those following the LB&SCR.

Eric Gates

Modelling Steward, The Brighton Circle

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After many years as Chairman of the Brighton Circle, Mike Cruttenden has decided to stand down. The L.B.& S.C.R. had a tradition of naming locos after its distinguished senior officers, so, in recognition of Mike's considerable contribution to the development of the Circle, this seemed appropriate.....

Pictures of Mike's own garden railway follow.

7mm Scale Outdoors

By Richard Barton

D1 piloting the D2 on the viaduct on Alan Brackenborough's garden railway. This clearly shows the close relationship between the D1 and its tender sibling. I have always thought the D2 a very attractive and well balanced design. What a pity the D2s had such a relatively short life, whereas I am old enough - just - to remember the last D1 at Brighton after withdrawal.

Billinton D3 No 365 "Victoria" was built and painted by me from a Meteor Models kit. The numberplates and the lining transfers (with the green borders corrected) were from Guilplates and the name transfers courtesy of Ian White. This is my only non-Stroudley locomotive and was built in memory of a much-loved cousin.

Stroudley C2 "Jumbo" No 423. This belonged to Roger Cornwell but the builder and painter are unknown. The photograph highlighted an error, which I hadn't previously noticed. The additional red lining indicates that 423 was Westinghouse fitted, confirmed in Bradley Volume 1. The missing pipes were quickly added! The Jumbo was a favourite design but I could never persuade Peter Korrison to build one for Fittleworth!

Stroudley D2 No 313 "Paris" was also acquired from the estate of the late Roger Cornwell. It was built and painted for him by Colin Hayward. "Paris" was regularly used on the Grand Vitesse trains to Newhaven Harbour. Though many years later I could see the boat trains from our house in Burgess Hill, pulled for many years by Brighton Atlantics.

Stroudley D1 No 240 "Ditchling" was built also from a Meteor Models kit, with details from Guilplates and Ian White. I used Precision Paint's matt IEG: in the past the recommendation was to use matt or semi-matt paint but the silvering under the name transfers show the unfortunate result. In spite of adding another layer of IEG round each letter with a 000 brush, the silvering is still obvious in certain lights. I fear the only solution is to repaint the tank sides but luckily Ian White supplied an extra pair of transfers. Not wishing to throw away my stock of matt IEG for later locomotives I have brush painted gloss varnish over the area of the name before applying the transfers. Problem solved. Where possible I like to have a story behind each locomotive and my first school was in Ditchling.

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Civil Engineering in the Garden

By Mike Cruttenden

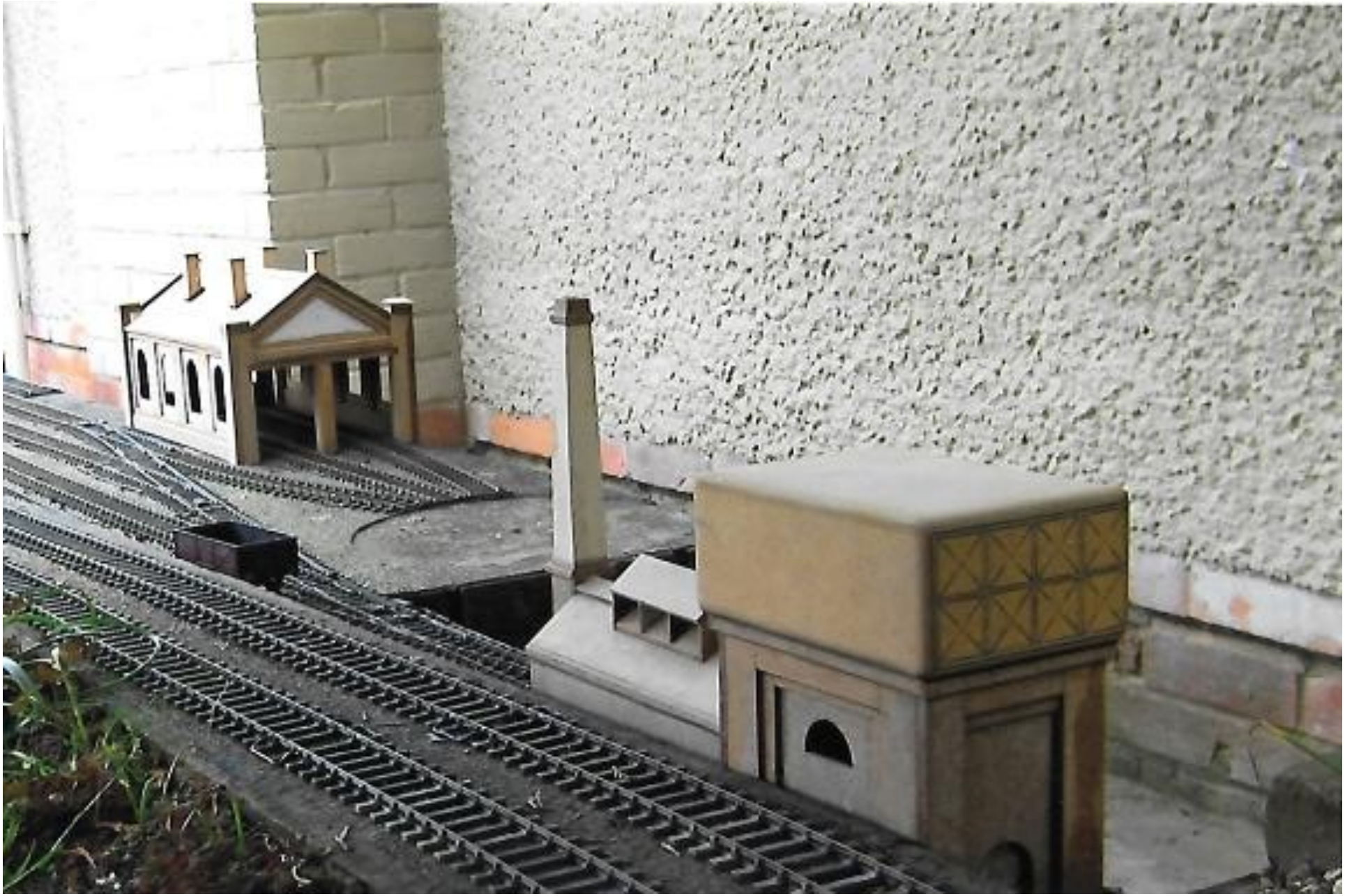
During lockdown, there has been some significant construction work at Ashcombe Down. The following photos illustrate these projects.

The control cabin showing the door, glazing and the tradesman's entrance, which allows direct unloading from cars in the street into the 'garden': a great help when carrying boxes of rolling stock. The door is round topped, in keeping with the 1860s style. The valence is now in Brighton colours, although painting is incomplete. I have made no attempt to reproduce windows of the period as life is too short!

Right

The interior of the control cabin, showing the door, floor and tip up seating, control covers and top silver box which houses the CCTV screen. The layout is too large to see the ends, so CCTV is a must for the more nervous members of the group, who are not used to having their trains disappear from sight!

Front view; painting in Brighton colours still incomplete. The foundations for a second cabin are now being built but are more complicated because of the site. It should be completed in 2021.



View showing the relative positions of the shed and water tower. A planked top turntable is under construction. Long Acre bank up and down mainlines are at the front of the picture.

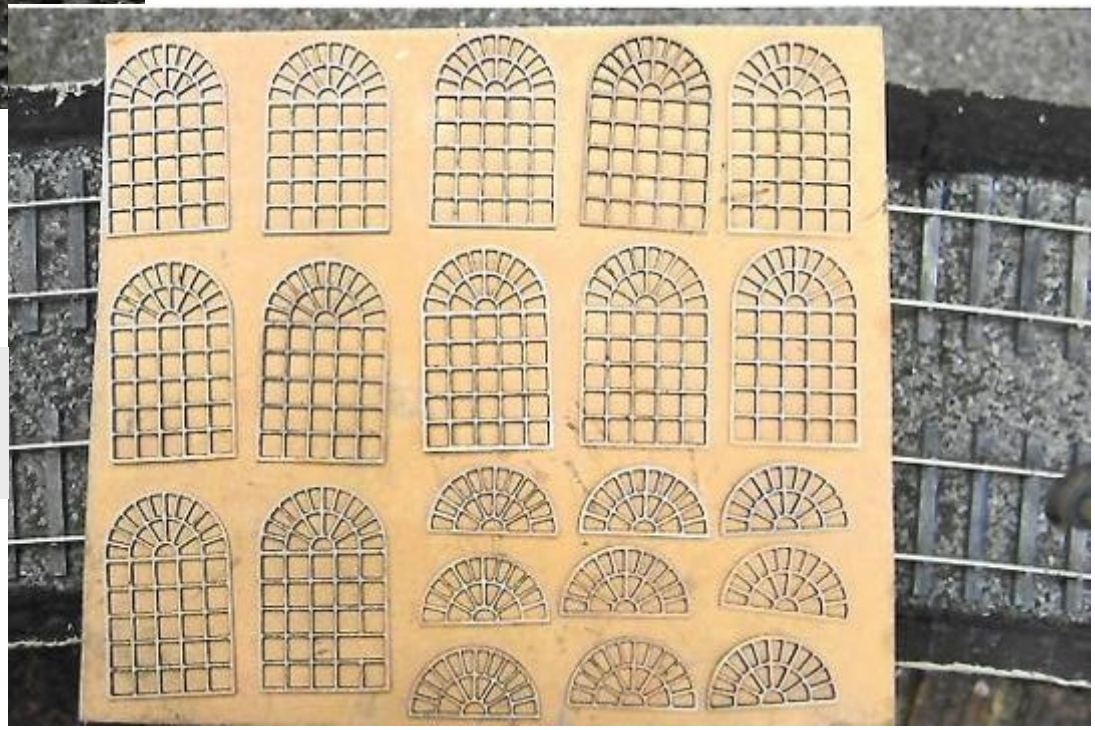
The water tower in undercoat/primer/ sealer, awaiting brick papering. The doors, windows and the ornamental ironwork on the sides of the tank are all laser cut wood – still to be fitted. The tunnel mouth in the background is on the single line Somerfield branch.

The locomotive headshunt has been lengthened to make room for the water tower, pump house and boiler room. This view shows them structurally complete but not yet detailed. All the buildings are robustly built but are not intended to be left out all year – only when a running session is due. They will be OK if caught out in a shower and are damp proofed but not water proofed. All buildings have laser cut windows, doors and ornamentation.

The coaling stage – with a delivery due shortly.

The engine shed in primer/sealer and with windows fitted. The new coaling stage is also shown. The tunnel mouth in the background is on the Somerfield branch, passing under Sandy Hill. In the middle of the picture, the up and down main lines climb Long Acre bank, which is a scale half mile at 1 in 40, starting on a reverse curve, providing a challenge for any model.

2 road engine shed, structurally complete, but unprimed and with doors, windows and vents still to be fitted.



Laser cut wooden windows for the engine shed, awaiting spray painting.

Engine shed front view. All doors, windows, vents, etc., are completed, only awaiting fitting as soon as the brickpapering has been completed. The pipe contains CCTV cables and mains power to the new central control station, which will control the shed and carriage sidings separately from the main running lines. This will allow social distancing to be observed.

Two road engine shed, from the rear, structurally complete. The smoke vent tops remain to be added when everything else is complete as they are too delicate to attach at this stage.

The miller’s view of Anscombe Road viaduct under refurbishment. There are six spans, built from concrete uprights with wooden tops. It is built from some 800 feet of timber, all glued and screwed together; I must have been mad!

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The Blackbury Line

By Craig Owen

Back in April 2020 - at the start of the COVID outbreak - British Railway Modelling (BRM) magazine held their first ‘Virtual Model Railway Exhibition’, featuring a number of model railways that would otherwise not normally make it on to exhibition circuits. One colourful contribution that caught the eye of LBSC Digest members and 'virtual visitors’ alike, was the “**Blackbury Line**” - a 00 gauge garden railway based in South Wales - with a running session of LBSC stock.

My model collection is quite an eclectic mix, featuring stock from all eras and regions - with a mix of Ready to Run stock, and second hand/kit built models acquired through exhibitions and swap meets.

The running session (and images) feature:

Bachmann H1 4-4-2 Atlantic 39 *“La France”* in Marsh Umber

Bachmann 0-6-2T E4 no. 579 in Marsh Umber (which I’m hoping to redecal as *“Roehampton”* as soon as I can find suitable transfers)

Hornby A1 Terrier 0-6-0T no 55 *“Stepney”* in Stroudley Ochre, lightly weathered

Dapol / Rails of Sheffield A1 Terrier 0-6-0T no 643 in Umber (ex *“Gipsyhill"*)

E5 0-6-2T 401 *“Woldingham”* in Stroudley Ochre - beautifully constructed and painted kit (acquired at Penarth Model Railway Exhibition - one of my most exciting show acquisitions!)

I3 4-4-2T no. 2023 in Southern Olive Green, kit built

L Baltic 4-6-4T no 333 *“Remembrance"* in Southern Olive Green, kit built

E5 0-6-2T no 2589 in Southern black, kit built (ex *“Ambersham”*)

D1 0-4-2T no. 2226 in Southern Olive Green, kit built (ex *“Westham”*)

Hornby *5BEL* *“Brighton Belle”* Pullman Electric Multiple Unit

You can see more by visiting Youtube.com and searching for 'The Blackbury Line' (featuring clips of many different running sessions on the garden railway); or enjoy a **"Bevvy of Brighton Beauties"** from April at: https://youtu.be/agKMDrqAmV4 *(clip = 8 minutes)*

The Blackbury Garden Railway can also be viewed via Facebook at: https://www.facebook.com/blackburyline/ .

The Atlantic-headed 'Southern Belle' in full flight across Blackbury's Viaduct is quite a sight to behold among the spring flowers! Bachmann's H1 Atlantic "La France" heads a rake of 12-wheeled matchboard-sided Pullmans.

The Blackbury Line's Story

Having had a mild obsession with model railways since childhood, I decided to finally 'bite the bullet' and build one shortly after turning 30 (in 2006). I'd always admired the sense of space that surrounds garden railways - the scope for wide, sweeping curves; long trains disappearing into the distance, and multiple movements threading through a landscape. And when I weighed up the work involved with creating (and wiring) a detailed 12x6 model railway in my garden shed, compared to pinning a circuit of track to some planks… The garden railway option actually seemed a pretty good one to go for!

Southern Belle flying high over Blackbury's Viaduct.

The Blackbury Line - named, very originally, after the fruit laden hedgerow it follows down the side of my orchard - has evolved since its initial ‘opening day’ in 2007. Perhaps the key lesson has been the classic, “Keep It Simple” - the garden railway always ends up working best, and running sessions being most enjoyable, when track work, points, wiring etc are all fairly straightforward. I’ve tried various experiments with making it more interesting - adding junctions, return loops, flyovers, shunting / marshalling yards… but have found the ideas often initially look lovely, then end up generating a lot of running problems (usually in the form of recurring derailments, or poor electrics)!

The Southern Belle headed by “La France” passes an E4 on a local passenger at the head of the orchard loop

Operation

Operationally, although the layout *appears* quite involved, it's actually just 2 main lines in a 'dog bone' formation - with one 'point' off each leading in to a station throat. To the RH of the junction / throat, a marshalling yard (of 5 roads) holds inbound and outbound stock; and to the LH of the junction, 4 'shed loops' hold locos for each running session. The main line extends to nearly 5 scale miles, a 4-track 'racing line' with 2 dumbbell loops at either end. The wiring is almost embarrassingly simple: a normal Gaugemaster dual controller, with one feed to each main line track, backed up by a 'dropper wire' to 3 other points on the circuit. This helps boost electrical conductivity a little (eg if there's poor connection) - but in practice, I usually find that a good clean (with fine grade sandpaper), and 'tweaking the fishplates' with tweezers at the start of each running session, usually resolves most issues. The track is all Peco Nickel Silver (mostly Code75), pinned to a base of ordinary builders' scaffolding planks covered with roofing felt, which gives a pleasing 'ballast'-like finish.

The Racing Line! Two trains return from the woodland loop onto the 4 track 'mainline section'.

One of the things I love about running sessions on Blackbury is the sense of very different ’sceneries’ between each of the sections: the viaduct, the box cutting, the sweeping return loop, the woodland bank, the ’S’ junction among the bluebells. There’s a real sense of the trains ‘going somewhere’; and the environment / background is always changing with the seasons.

Blackbury Station throat with the ’South Coast set’ stabled for a running session

Dr Beeching's Orders...

Unfortunately, many good things come to an end… and I'm sorry to say that by the time you read this, the Blackbury Line will be no more! Over 2020, we've been in the process of preparing to move house, and in November I finally had to face up to my inner "Doctor Beeching" - with the lifting of the tracks.

Though it felt deeply disturbing to 'lift' 13 years of work (and joy!) in just 3 hours, I'm relieved to say that *"she is not dead, yet sleepeth"*. As we settle in to our new home in Herefordshire, the line for the next garden railway has already been surveyed in detail - and come next Spring, I look forward to hopefully unveiling the 'child of Blackbury'! Maybe with another LBSCR running session to mark the occasion?

In the meantime, I do hope LBSC Digest members enjoy the riot of Ochres, Olives, Umbers and Creams among the bright spring greens: a splash of colour amidst the deep mid-winter to look forward to 2021. **Happy New Year**!

Bluebell Junction, with an E4 leading a local coming off the woodland bank route

A study in Brighton beauty: H1 “La France” and E5 “Woldingham"

Improved Engine Green in evening sunshine

Terrier in Umber (Dapol / Rails of Sheffield version)

“Remembrance” and the I3 in Southern Olive

Blackbury station throat

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Railmotor No 2

By Peter Wisdom

Construction of this project was spread over about 2 years. I used 1½” to 12” plans for the locomotive and drew up plans for the coach from a side view. The coach roof is the third attempt to get the profile correct.

Painted by Colin Hayward,

Fittings were turned up by the late Ian Dawson and coach seating is by MSC. Unable to run on my layout as the steps are rather prominent so, rather than rebuild the platform, the model now resides in the Museum at Sheffield Park. Bluebell Railway.

The garden layout was Dennis Tilmans' in Fareham.

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Hadlow Cross - a work in progress

By John Ritter

Hadlow Cross (HX) is a fictitious station on a 7mm scale layout built to S7 standards. It aims to portray a representative Myres designed station on the high Weald section of the old Cuckoo line on the Sussex-Kent border, on a nostalgic Indian summer's day some time in the 1890s (lots of windows are open!) *Hadlow* is an ancient enduring name in the vicinity of Heathfield, while *Cross* was taken up by villages along the path taken by the Archbishop of Canterbury en route to Winchester.

It occupies an area 2m x 10m of a line running around a utility room and through holes in the wall into a loft containing return loops and storage sidings. It sits on an open frame structure, with 'ground level' set at my chin height for realistic viewing. The concept follows Barry Norman's classic layout Petherick: a railway embedded in the landscape with the passenger platforms remote from the foreground. Numerous visits to UK since 1977 have afforded me ample opportunity to explore the remains of the hilly, winding Cuckoo line in a landscape that greatly appeals to me. Fellow modellers in Melbourne advised me early-on to build double track, to add to the interest when shunting is less so. By a coincidence, the LB&SCR also made provision for future doubling of the single track, though it never eventuated. Curves and gradients on the scenic section are near to scale: curves of 15-20 chains radius and gradients 1 in 60 to 1 in 40, all transitional, correctly canted and gauge widened.

Photo 1.

Entering HX from the south. Track is all hand built, with all-over ballast of sieved builders' packing sand, representing shingle and gravel. Buildings are Kirtley/Ritter. The timber platform end is to reduce pressure on landfill subsoil. The maroon and off-white goods lock-up is a later installation from the 1890s. Tooth picks mark the location of future platform lamps. Approaching is D1 tank 283 Aldgate (ex Battersea) steadying a set of Billinton 6-wheel carriages down the gradient from the Mayfield sandstone ridge.

Photo 2. On the 15 chain curve through the station, with the main North signal box and running-in board directly in view. The winding nature of the Cuckoo line is clearly evident, as is the original 1882 buff and red-brown livery and still pristine pargetting; also the railings around the subway stairs opposite the porters' crossings, a lone vintage Hornby O gauge porter, and the staff's glorious display of chrysanthemums in the platform garden bed.

Photo 3. The down train for Polegate and Eastbourne. The white gate provides platform access from the unfinished goods yard; this configuration is not standard Brighton practice but it gets me out of a jam. The Billinton carriage set was made from MSC kits by Colin Paul and painted by Colin Hayward.

Photo 4. A classic Myres design, identical to that at Horam (south of Heathfield) and similar to Sheffield Park as originally built. This model was built by Peter Smith, and further worked on, detailed, and weathered by yours truly. The ubiquitous orange-red of bricks and tiles on the buildings and platform walls reflects the proximity of numerous brickfields along the Cuckoo line. The colours are matched to fragments of old bricks and tiles scrounged from around Old Heathfield. Canopy pillars are built up from brass square sections, and dangle freely from their upper attachments so staying vertical.

Photo 5.

North signal box is a Saxby and Farmer No.1 special, architecturally designed to harmonise with Myres' station buildings and with machinery fitted out by S&F whose 'cast iron' maker's plate (from Peter Wisdom) sits centrally below the box nameplate. The sliding windows are triple layers of brass etch sandwiching 5 thou thick glass to make up scale thickness. Framing of the wood panelling is pre-painted styrene strip. A full compliment of point rod cranks and signal wire pulleys occupy the locking room aperture.

Photo 6. Terrier No.78 Hailsham is in its home territory. Superstructure is a Vulcan kit, painted by Alan Brackenborough and weathered by Martin Welch, while the chassis is scratch built, with an ABC mechanism, and sprung. The running-in board copies that at Barcombe c.1904, with cut-out letters (amenable to 3-d printing) and clearly not a black background; too modern, but I like it. Trees in the background are from Germany, purported to be forest oaks, and are part of a compromise: too many mature trees (these, elms, ash and Scots pines) for an area almost denuded by charcoal burning, then the railway navvies, on top of normal rural consumption.

D1 tank Aldgate, shown in photo 3, is my first attempt at scratch building, started on my 18th birthday. When almost complete, and with many discarded items along the way, I decided to go exact scale, so wheels were reprofiled and axles were remade for 33mm gauge. Painted by Gamages' professional man, long ago. Back in 1973 this was pioneering Scale 7, shared with Richard Davidson of early wagon modelling fame. More recently I made a pair of overlay frames to achieve the correct 1 inch gap behind a set of Alan Harris wheels, much nicer than my slightly daggy efforts with their hand-cut spokes. It has a robust gearbox machined from solid, ball races throughout, and an MSC JH motor. My locomotives are controlled by a Pentroller and/or a Pictroller (of Pendon fame). I find their characteristic to maintain a nearly constant speed is very handy on a hilly layout.

With the station layout, a departure from the standard Cuckoo line formula was imposed by the railway room configuration, but I have tried to comply with the Brighton's norms as far as possible and where it suits me. Similarly, buildings and structures are closely matched to Myres' style in original 1882 condition with buff and red-brown livery, and decorative pargetted plaster (before it was covered over by hung tiles less than 10 years later).

Locomotives and rolling stock also belong to a stretchy time frame, centred on the Stroudley era, but extending to the ultra modern 20th century.

My glacial pace of construction and acquisition means much remains to be done, but the preceding photos give an idea of the image of the Brighton I am trying to achieve.

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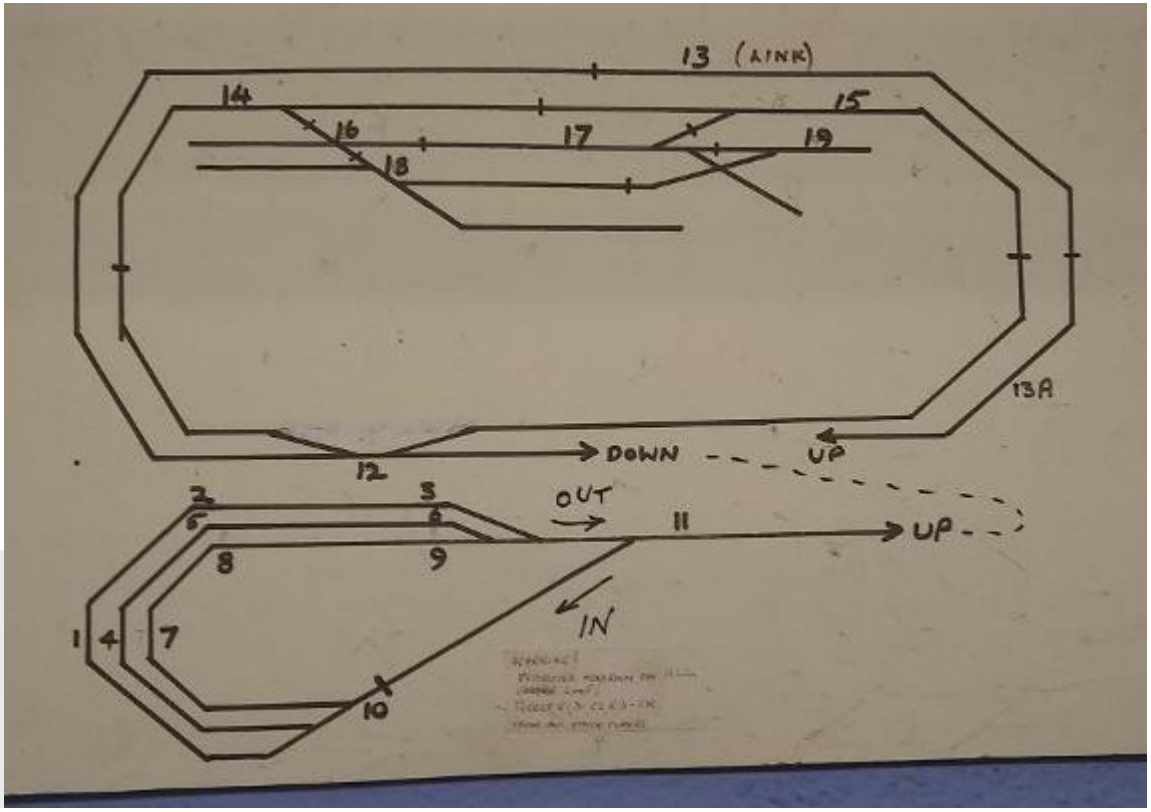
Littlehampton in 7mm Finescale

By Arch Overbury

The emphasis of the layout is on operation. The operating team usually shunts at both Littlehampton and Petworth, exchanging goods trains between them. They will occasionally run passenger trains out of the storage loops, do a few laps of the middle section and then run up to Littlehampton for a loco change. The reverse move is then carried out later. There are 2 storage sidings for the motor trains each side of the line that goes across the shed into the main storage loops and, when we remember, a motor train is run up to Littlehampton via Petworth/Selham. I have done a timetable based on the real timetable but, so far, we have not run managed to run to it! It is only for the last year that there has been sufficient stock and the group has not met since March.



Top is the diagram of the middle level station based on Petworth.

Below is the diagram of the lowest level, which provides the storage loops.

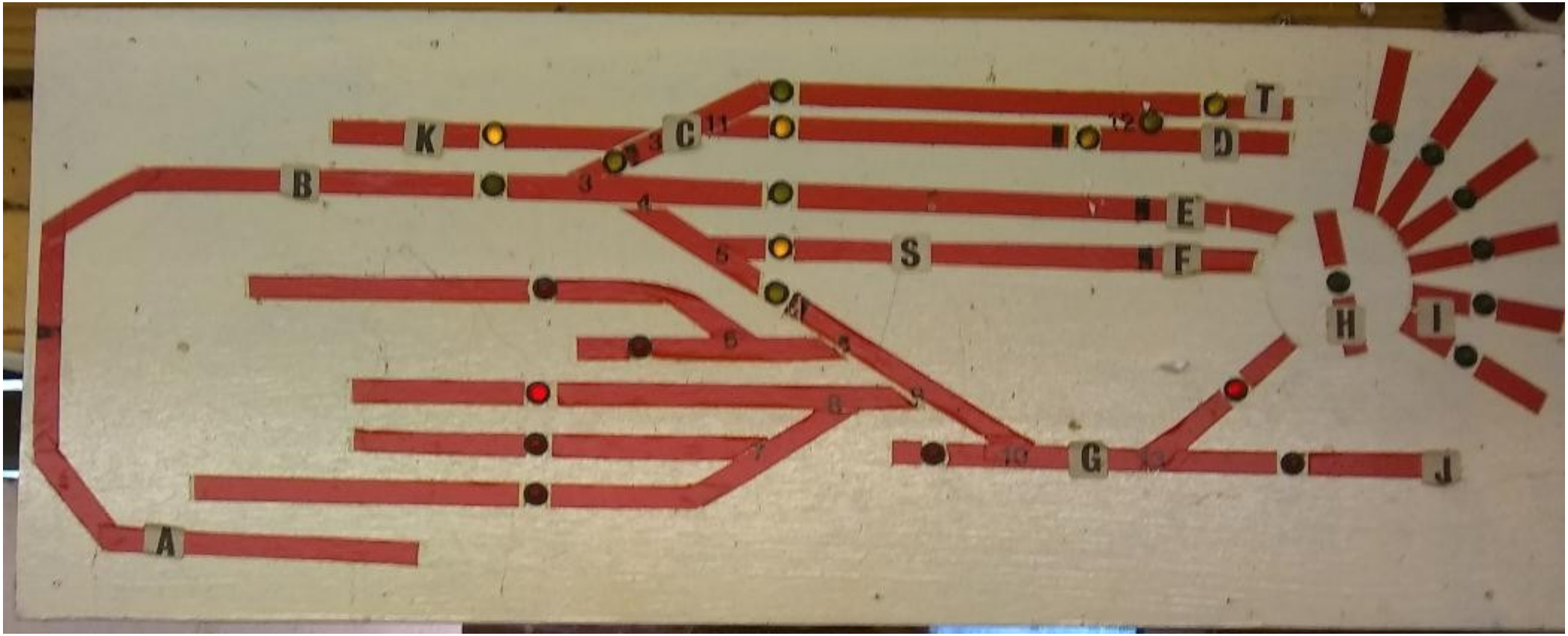


Diagram of Littlehampton terminus, which forms the top layer of the layout, located above the sections shown in the diagram on the previous page.

Looking into the goods yard at Littlehampton.

The goods shed at Littlehampton, based on those at Mayfield/Rotherfield.

The horsebox train in its siding at Littlehampton.

Selham station building, serving a layout based on Petworth. The signal box is from a very nice laser cut kit.

A fine model of the second station at East Grinstead, built by Peter Wisdom

The rear of the station building - the passage leads onto London Road. The bridge going over the lines has been built but needs brickwork!


LB&SCR
417
BRIGHTON


MIDHURST
WIVELSFIELD
473
L B S C
L B & S C R


BEXHILL
629
L B S C
LEWES


L B S C
116
FLORENCE
L B S C

Some of the loco stock available to the operators.

The shed, which has been up for 42 years. It was supplied as a garage, 28’ x 12’, with two end walls, rather than one end being a doorway for vehicles. The original intention was to house a fairly accurate EM gauge model of Horsted Keynes. This was 17’ from the end of the 3 way point in the down yard headshunt to the end of the trailing crossover, shortly before the bridge at the East Grinstead end of the station.

We did eventually have enough stock to run a 24 hour timetable on June 31st (sic) 1940 according to a 1938 Bradshaw, plus the goods service (such as it was) in 1911. We only ran through the whole timetable once, when Alan Elliott (of Cuckoo Line fame) came for an afternoon and evening - with an hour off for supper!

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A Brighton goods lock up

By Paul Rhodes

'Old Parrock' is an entry in the Model Railway Journal Cameo Layout Competition. It represents a light railway, roughly in the area of the old East Grinstead to Tunbridge Wells West line. The railway buildings are a bit of a mixture but they do include a typical Brighton lock-up; the other two, the station building and lever frame hut are from the KESR (the station building much reduced).

I have long been fascinated by Tablehurst Mill, which was part of Tablehurst Farm in Forest Row until it was dismantled in the early thirties. I have some high definition photographs of it, which I purchased from the Mills Archive, and this mill, with the nearby mill cottage, was the inspiration for my layout.

Tablehurst mill (copyright unknown)

The mill cottage

For the lock-up I referred to the article in Volume 19 of The Brighton Circular and also used photos which I could find on the web, as well as some of my own of the goods hut at Kingscote. The building is made from mounting board and card with a few small plastic and brass additions. The other buildings are also built of card in the style of Pendon - or perhaps Pendon-lite is a better description, although the mill still took six months of fairly intensive modelling to make! Old Parrock was booked for Railex at Aylesbury this year as its first outing, but inevitably that was cancelled and I'm not sure when it will first be exhibited.

Photographs copyright Paul Rhodes

I knew that I wouldn't have time to build the layout and stock so I opted for the Southern Railway pre-war era and used mostly RTR models, but I am now working on a short rake of Stroudley 4-wheelers and hopefully, when it does finally see the light of day, it will be set in Edwardian times with an appropriate change of rolling stock and figures.
The full story of the cameo layout's construction is detailed on Western Thunder - Old Parrack.

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Hattons' Genesis Carriages

- an appreciation

By Nick Holliday

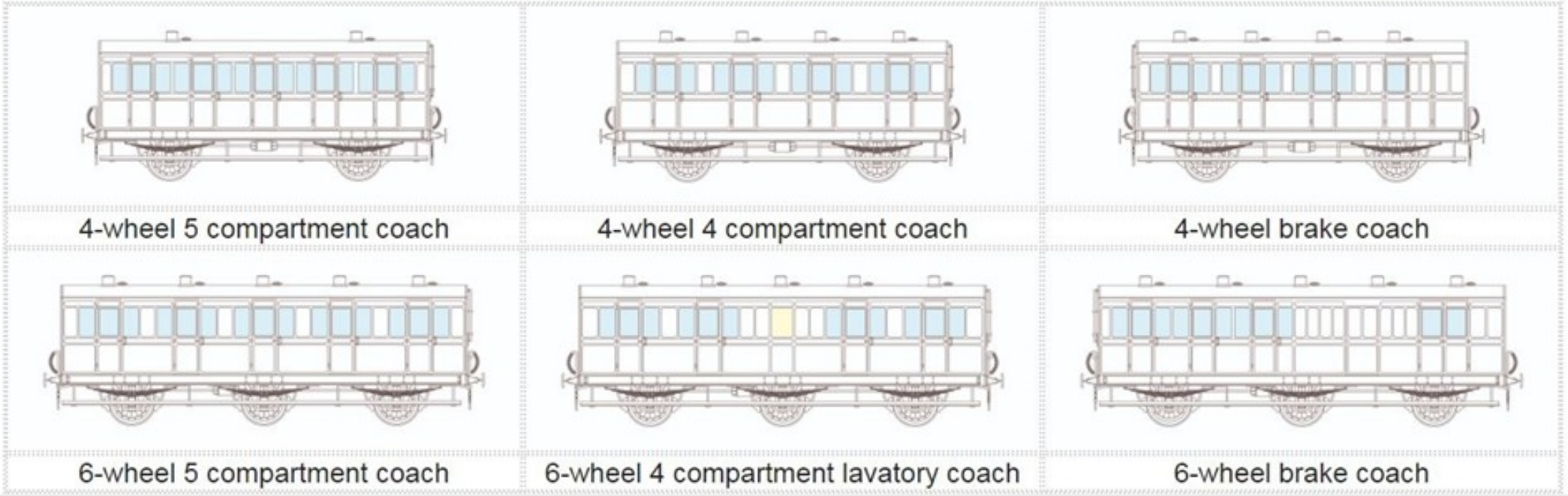
These notes provide a critique of the Genesis pre-grouping carriages to be released by Hattons and a detailed comparison with prototype Brighton 4 and 6 wheelers. Depending on the strictness of your modelling criteria, they can provide a very acceptable compromise source of coaching stock and, in some cases, a very accurate model of vehicles not available elsewhere.

Original Proposals

On 8th October 2019, Hattons, a major model retailer in Liverpool, announced that they proposed to manufacture a range of generic four and six wheeled coaches that would be finished and marketed in a wide range of main line company liveries. This announcement was met with a frenzy of excited comment on various model railway fora, especially RMweb. The initial proposals were based on a standard 26 feet long body for the four wheelers, and 32 feet for the six.

Development

The reaction was generally very positive, but the first observations were that the four wheelers looked too Brighton to be considered generic. Die-hard Brighton modellers tended to dismiss the whole concept, since we have been well served by K's, Roxey Mouldings, Microrail, Branchlines,



Initial proposal drawings October 2019, since revised

EBM, even Smallbrook Studios and Bachmann, but others, eagerly anticipating the arrival of new and improved Terriers from Hornby and Rails, were very excited, although followers of other lines generally thought they were too specific. There followed a long period of discussion, much of it conducted on RMweb, in which advice and information was “freely” given, resulting in Hattons making several changes, many of them minor, some of them positive, including the addition of a six wheeled Full Brake to the range, but a major decision was to increase the length of the four wheelers to 28 feet, which, combined with the standard high arc roof profile adopted for both four and six wheelers, means that the current offerings are some 12% beefier than the Stroudley coaches they were thought to represent, and perhaps the unique visual relationship between the Terriers and their original coaches might have been lost in the process.

With such an enterprise there will inevitably be many compromises in order to make the product as generic as possible, and it will be up to each individual to decide whether they are acceptable

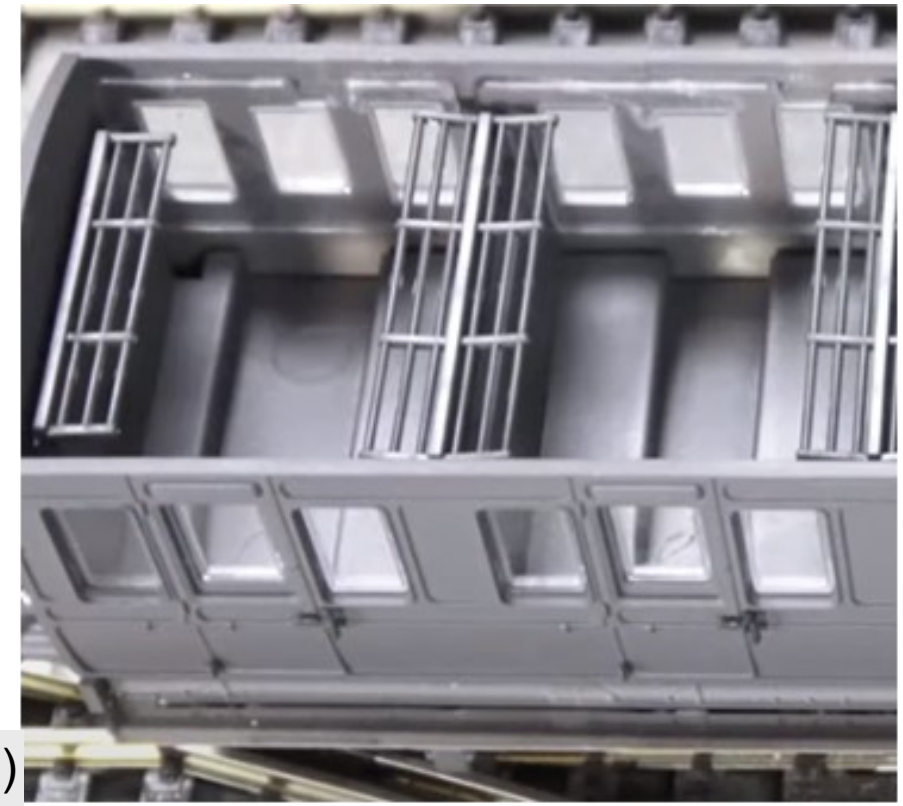
or not, and I will be going through the current (October 2020) proposals and try to identify the positive and negative points for each model in the range. It is possible that Hattons may still make various changes, to the paintwork, in particular, as they have shown themselves capable of taking comments on board, although their experts seem to have gaps in their knowledge which has led to some strange and sometimes inappropriate choices.

Overall, on a positive note, the models look as if they are going to be very detailed, with full interiors, including such touches as the seats in the compartments next to the lavatories having the gap for the door, and including luggage racks, and the roofs have such touches as the pipe work for the gas lights. Currently priced at £30 (or £36 with lighting installed) they compare very well with current kits, which cost a similar amount, but then need wheels, building, and painting and lettering.

Screen shots of 6-wheeled lavatory Composite September 2020

If the actual models match the CAD rendering, all the liveries look very impressive, including “Smoking” signs on some windows. Even for those lines for which the body mouldings are totally incorrect, the lining has been applied only where it suits the prototype, although whether this subterfuge works on the actual models remains to be seen. That is one plus – the arrangement of the mouldings to the panels is a close match to the Brighton style, so little or no compromise on that score.

Hattons’ proposed mahogany livery (September 2020) and a contemporary poster for comparison. Note that there are several inaccuracies in the poster.



View of interior of Engineering Prototype (Sept 2020)

General Details

One aspect is that Hattons, I think wisely, have adopted a very discreet door handrail style, which will make Cambrian Railways modellers happy, at least. Fortunately, they did not choose any flamboyant design, such as the curlicue GWR extravagance that lingers on all those Tri-ang clerestory and Ratio conversions! It remains to be seen how easy it will be to add Brighton handrails without damaging the paintwork, or whether it is worth the effort.

Currently, lower footboards are envisaged, a luxury that the Brighton seems to have eschewed, apart from a short period in the late 1890's. Recent press releases indicate that the footboards are separate metal items, screwed to the chassis, and there is a suggestion that unspecified versions will be produced without them.

One disappointing aspect is that, although the initial drawings showed a nice representation of Westinghouse brake equipment, bowing to overwhelming pressure, the current manifestations show vacuum brakes on all the range.

Hattons have gone to town on detailing the ends. Fortunately for Brighton modellers, the ends have been modelled flat, rather than having the turn-under that several lines adopted, as seen on the Hornby and Ratio GWR and MR donor vehicles commonly adapted for LBSC use. However, the rodding and other items associated with the communication system is entirely redundant, as all LBSCR vehicles would have been equipped with Stroudley-Rusbridge electrical communication, requiring only the inconspicuous central electrical fitting and flexible connection. They also show lamp irons, perhaps a luxury on some of the non-brake ends, but located far too high, almost at eaves level, whereas Brighton irons were well below waist height.

Similarly, they have shown a lot of detail on the roofs, one of the more visible areas on a model Surprisingly, the characterful oil lamps of the original draft, although not correct for the Billinton six -wheelers, have been replaced with gas lighting for the initial batch. The CAD rendering does

show a pre-incandescent mantle lighting installation, with a single pipe, and gas tank, which suits the 6 wheelers, when built, although many 4-wheelers subsequently were converted from oil to gas lighting, probably after the change to umber in 1903, and electric lighting was adopted for some at an early date.

Hattons have also generously provided ventilators for the smoking compartments. As far as I can tell, none of these non-bogie types were actually built with roof ventilators, apart from those to the lavatories, but later photos seem to show some did receive them, again possibly post-umber; instead the smoking compartments were fitted with a more hollow 'Anderson' hood, for better smoke extraction. The smoking compartments seem to have been correctly identified, and they have a different design of label for each mainline company, a nice touch. For a time, the LBSCR had enamelled plaques fixed above the doors to the relevant compartment, which could be added if required.

The actual roof profile, as noted, is higher than the Stroudley shallow roof, but appears to be slightly lower than the later Billinton profile, similar to that adopted by Clayton of the Midland Railway in 1874.

One of the features that serves to distinguish a Stroudley-built vehicle from those Billinton was responsible for, is the absence of what modellers, and others, tend to call bolections, a raised surround retaining the window glass. Hattons have incorporated this moulding, although it is incorrect for the majority of Stroudley carriages, however, a few of the final production runs of four -wheelers in 1890 and 1891, like the Bluebell's preserved Third No. 328, built in 1890, did have them.

From a Brighton modeller's point of view, the presence of these raised mouldings has always been a complication. To date, the majority of Brighton coach kits have been in etched brass, and

the nature of the material and the etching process makes it difficult to include this detail. However, including it in the moulding is a step forward.

Liveries

The initial batch is to carry mahogany livery, although initially the later all-over umber was proposed. There has been almost as much discussion regarding the “exact” tone of Honduras mahogany as there has about the correct version of Stroudley’s locomotive Improved Engine Green. The current rendering looks acceptable to the author and has sufficient reddish tinge to differentiate it from umber. For more details, consult the references.

There is scope for further runs in different liveries, the later all-over umber being applicable to all designs, whilst the 1903 livery, of umber with off-white (white to which a small amount of umber was added) upper panels could be applied to the 6-wheelers.

The lettering, as shown, is in gold, blocked to the left in red, and shaded in black. When the change was made to umber, the lettering was still gold, but now blocked to the right in blue. The garters are correct for most of the period, carrying the vehicle number in the centre. After 1898 the number was painted in a waist panel, and the number omitted from the garter, which finally disappeared from common use with the umber livery.

The ends of brake vans were, from early days, painted vermillion, although this practice stopped around 1900, so it would not be incorrect to have the ends painted in mahogany, as an alternative finish, albeit only applicable to a short period.

Hattons have yet (September 2020) to finalise the internal paint schemes. Hopefully, they will match the Brighton tones, which seem to have been:

Firsts – Partitions mahogany framing with dark walnut panels, white Lincrusta above luggage rack, doors padded leather – seats in dark blue, generally cloth, or leather for smoking compartments. Seconds – Walls mahogany panels with white Lincrusta above luggage racks. Seats covered in brown velvet or Vulcan leather, later a dark red colour.

Thirds – Walls light grained oak. Wooden seats (early days) grained oak with the seat backs in dull crimson. Later seats were padded, covered in figured rep, believed to be a grey and grey/ brown weave with red fleck.

Interior of Billinton First on the Bluebell – Photo © James E Petts – Courtesy Wikipedia Commons

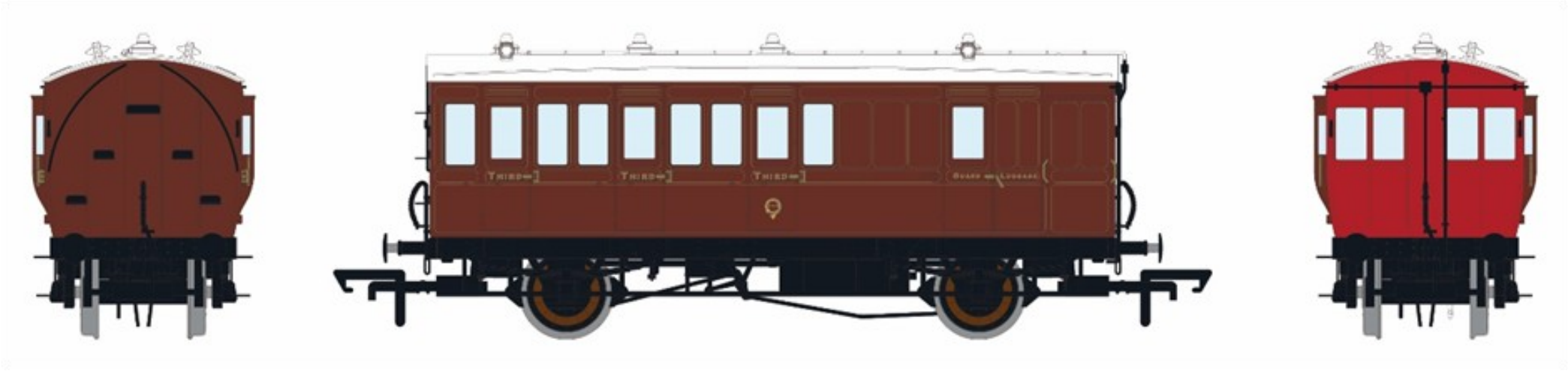
Looking at the individual models

Stroudley Four wheelers

The models' body length is two feet longer than the twenty six feet length of a Stroudley 4-wheeler, and, combined with the higher roof profile, it will be a major compromise to accept it as a Stroudley vehicle. The model wheelbase scales at 16' 9" compared with the Stroudley's 15' 0", nearly 12% difference, compared with the 7.5% difference in the overall length. A minor common point is that the gas tank should be positioned in the centre of the vehicle, not offset to one end. Other general discrepancies have been noted previously.
The following notes are based upon this compromise being acceptable.

Three compartment Brake Third

Proposed numbers:- No. 150 and No. 265



Both of these were built in 1890, hence it is likely that they would have had the projecting window mouldings.

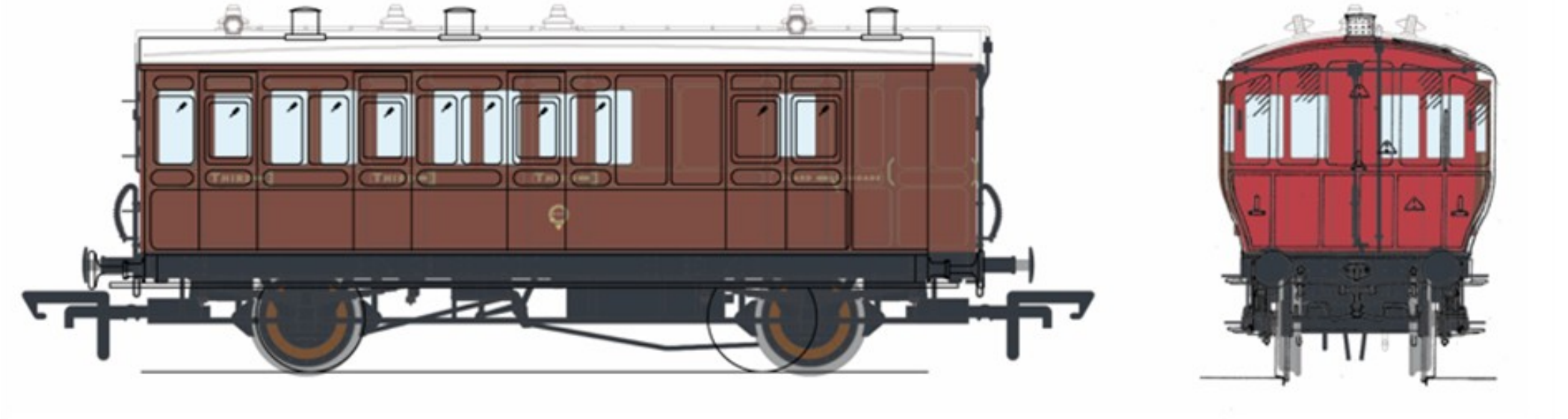
The main problem with this vehicle is the arrangement of the guard's ducket. It is squared-off below eaves level, rather than curving to join the roof, and the end windows are restricted to the notional width of the main body, rather than extending into the duckets. This has also resulted in there only being one central panel between the pairs of end windows, rather than the two, the unnecessary passenger communication equipment being over prominent too, and the steps should be at the brake end.

The face of the ducket has been given panelling to match the bodywork. When originally built the ducket had a iron sheet face, and only received the timber panels from 1911. This later form is how they appeared on the Isle of Wight.

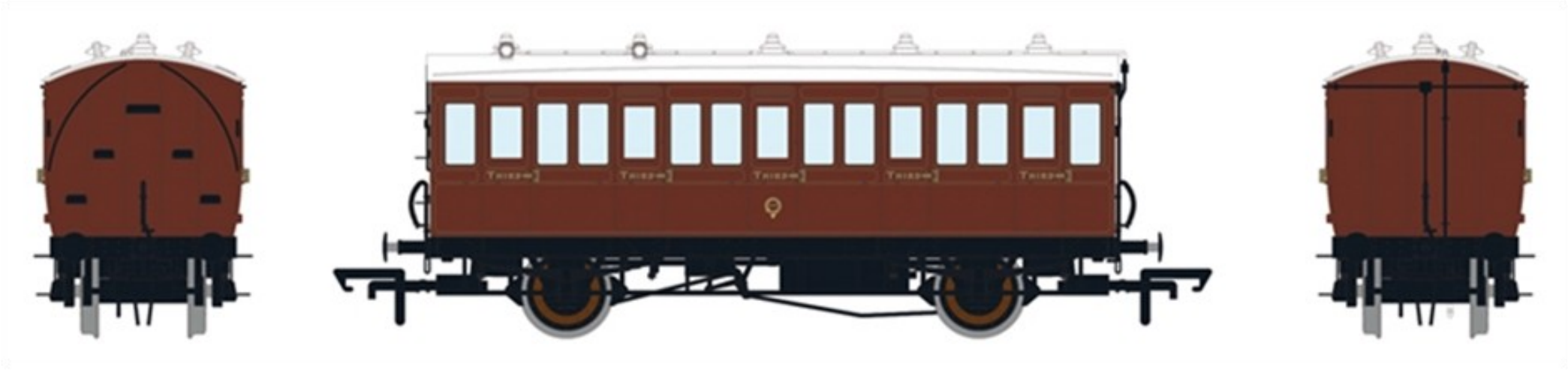
Due to the increased length there is an extra panel between the last compartment and the guard's doors, and these panels have been given waist panels, instead of the Stroudley arrangement .

Brake vans of this era were initially provided with nine-spoked wheels, as Mansell wheels were unsuitable to take the braking loads, before all the coaches were fitted with brakes.

Overlay of scale drawing of Stroudley Brake Third



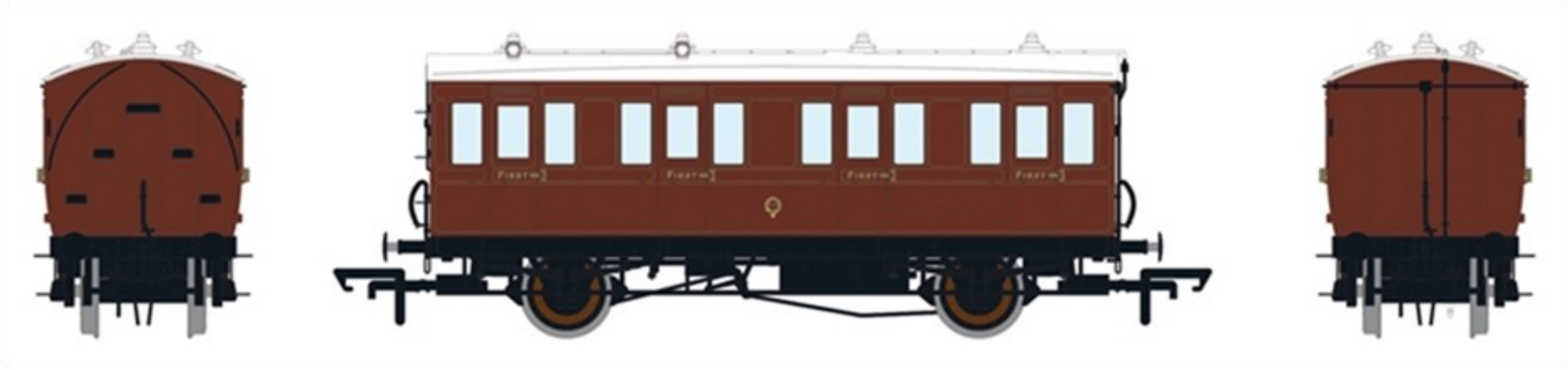
Five compartment Third



Proposed numbers:- No. 347 and No. 520

Built 1890 and 1891 respectively, it is also probable that they would have had the projecting window mouldings. The increased length has resulted in the panels between compartments being slightly wider, and for some reason the panels at each end are wider than the others.

Four compartment First



Proposed number:- No. 499

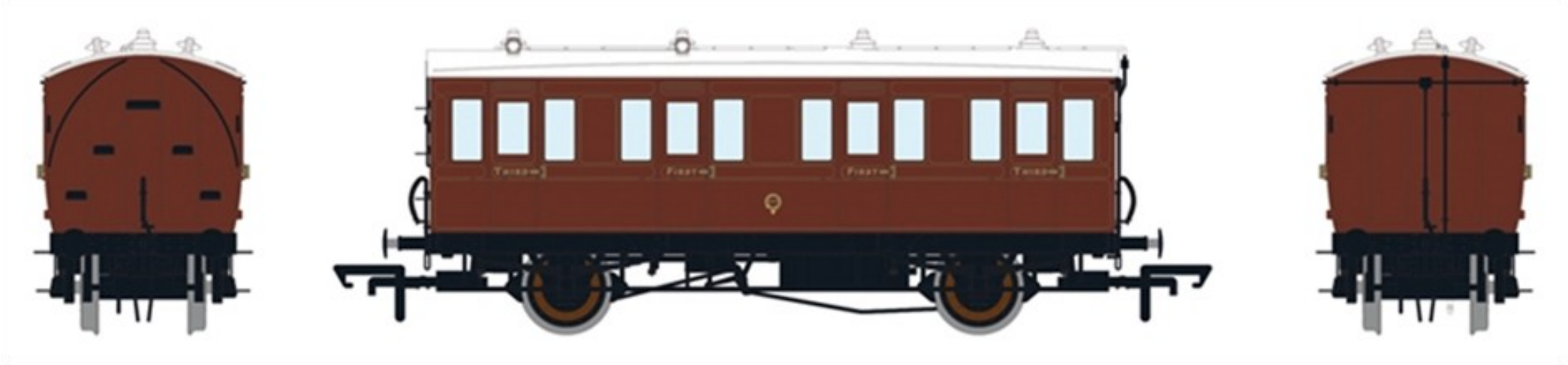
Built 1876.

Raised window mouldings incorrect. However, Nos. 3, 22 and 33 were built in 1889, and might have had this feature, so possibly more suitable numbers.

No mainline Firsts were built on 4 wheels, Stroudley having designed a rather superior 5 compartment 6-wheeled vehicle for this duty. Hence this must be a suburban version, which would have been in a set, and would have had no, or only vestigial, buffers.

The body moulding is actually that of a Composite, and hence the panels between windows differ, whereas they should all be the same size, although the difference is not too marked.

Four compartment Composite



Proposed number:- No. 233

No. 233 was built in 1889; Nos. 234-237, being built in 1890, were more likely to have had the raised window mouldings.

The main issue is that they were built as First – Second Composites, and it was only with the wide scale removal of Second Class services on the Brighton Line from 1908, during the umber phase, that the Second Class compartments were re-branded as Thirds.

Possible additions to the 4 wheeled range

Stroudley

If people are prepared to accept the compromises outlined above, there are further possibilities that could be produced.

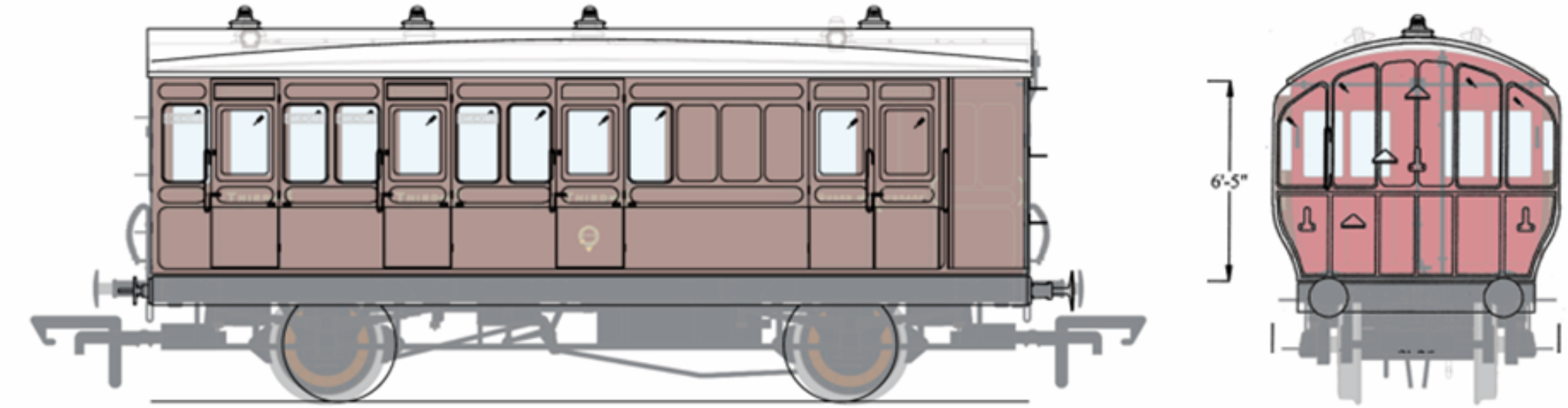
The five-compartment moulding could be produced as a Suburban Full Second. None built after 1884, so the window mouldings would be incorrect, and the comments regarding the Full First and its buffers would apply.

The four-compartment moulding could represent a Mainline Full Second, the last two Nos. 81 and 87 appearing in December 1888, though not quite late enough to expect the raised window mouldings. The comment regarding unequal compartment spacing still holds.

Billinton

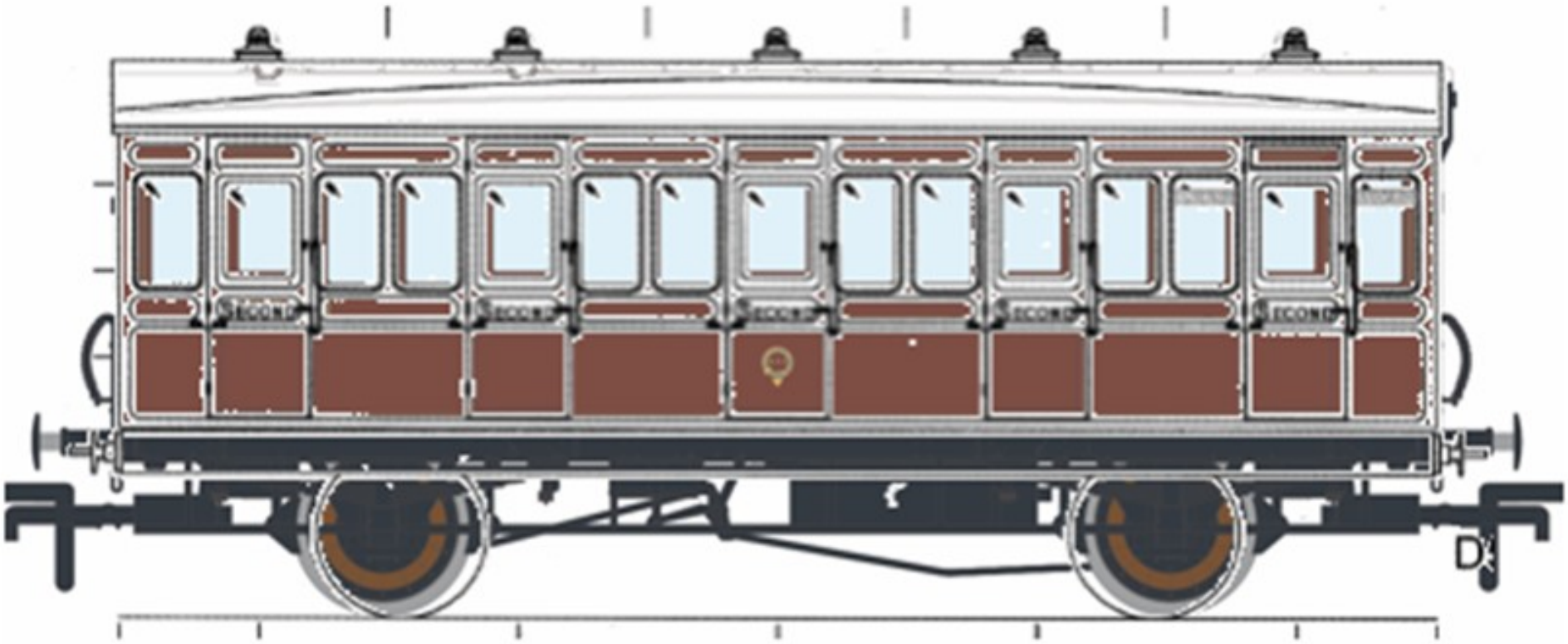
In 1896 Billinton built two 12 coach sets of 4 wheeled coaches to his design, which used the higher roof of his six-wheelers, and were longer than the Stroudley carriages at 28 feet overall body length, with a 16’ 0” wheelbase. These dimensions are a close match to the Hattons design, resulting in fewer compromises. These two sets were gas-lit, a Third electrically lit one appearing in 1897, and all ran on Mansell wheels.

Third Brake



Suitable numbers, 1200 and 1237

This overlay of a scale drawing shows how close the two designs are. The major compromise is the ducket arrangement and the brake end panelling. If not entirely acceptable, there is an opportunity for someone to prepare a simple etching, including end, ducket sides and fronts, and sets of footsteps for the guard. The vermillion end and limited lining to the ducket would minimise the problems of producing a match for the rest of the paint finish. When first built the duckets were the smooth metal sheets, but from 1911 they were reduced in overall width and provided with timber mouldings, another possible variation for an etching as the outer-most lookout windows were noticeably reduced in width.



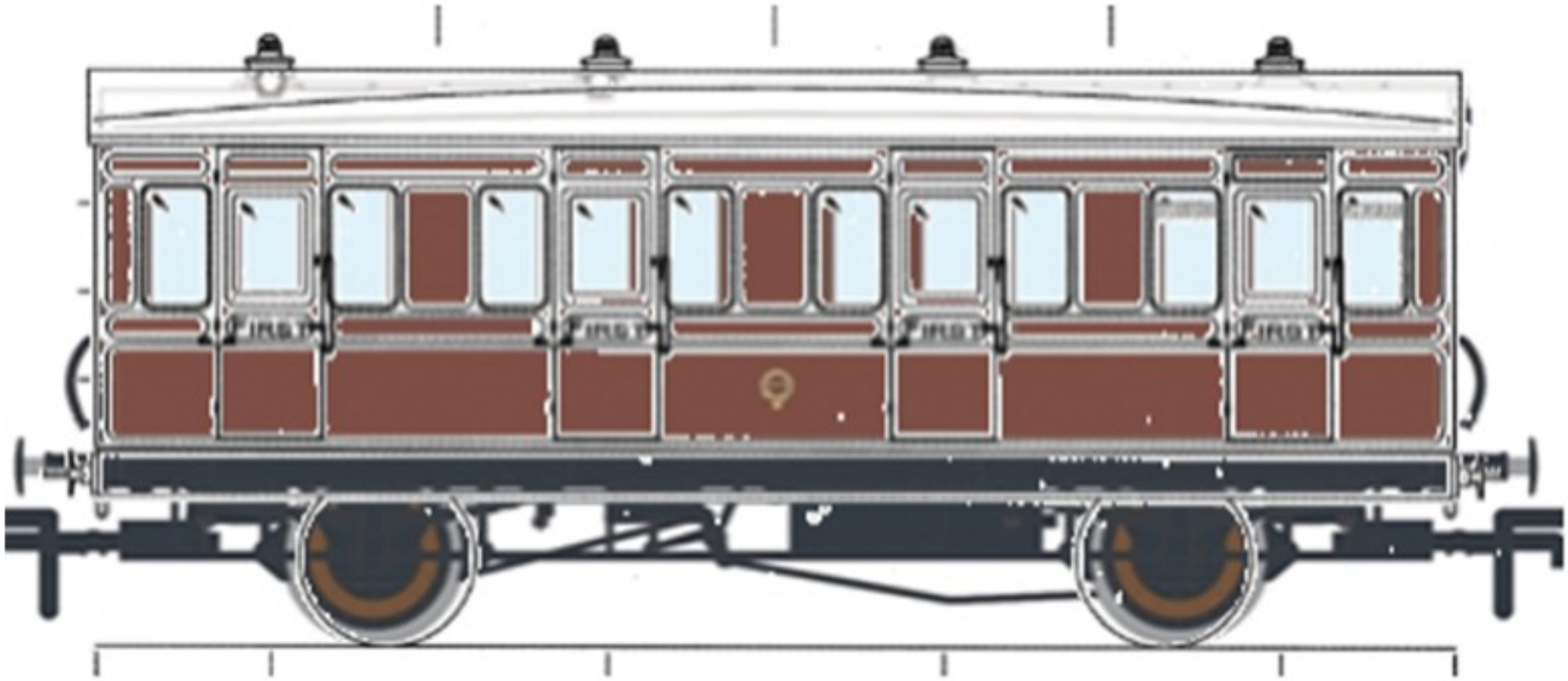
5 Compartment Third

A very close match, subject to some of the general concerns voiced earlier. This overlay does highlight the extra width of the end panels.

Suitable numbers, 1194 to 1199

5 Compartment Second

A very close match, subject to some of the general concerns voiced earlier. Suitable numbers, 46, 48, 50 and 52.



4 compartment First

Affected by the body being for a Composite, with unequal panels, but otherwise a good fit.

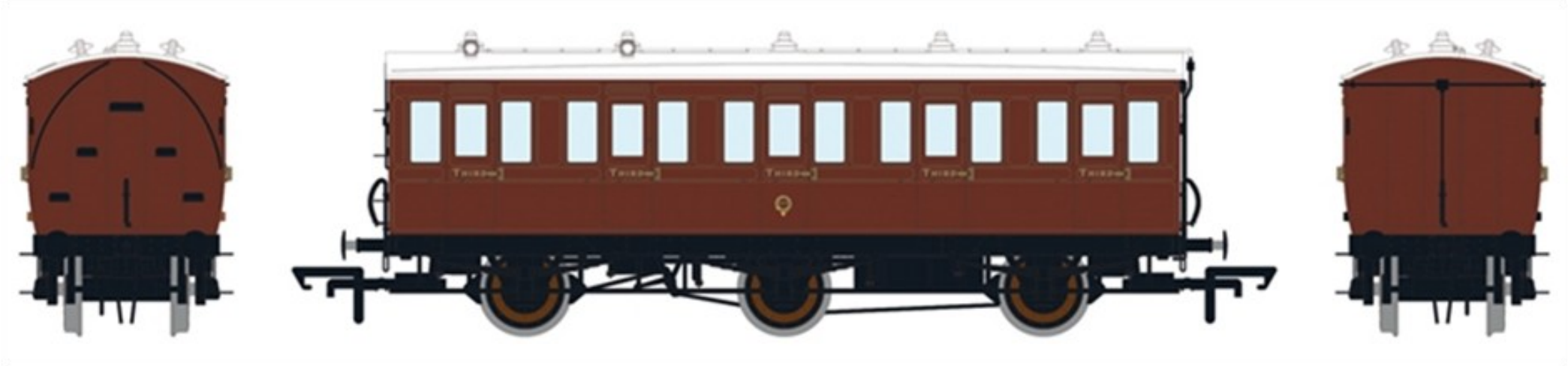
Suitable numbers, 121-128

As these were relatively modern stock, and due for repainting around the time of the introduction of the umber and white livery, it is likely that at least one of these sets would have appeared in this livery, unlike the veteran Stroudley stock.

Happily, this likeness fills a gap in the market that has not been addressed by the kit makers, making it something that 4mm Brighton modellers should seriously consider, particularly if some of the issues raised can be easily resolved.

Billinton Six-wheelers

Although Stroudley built a few First Class and Composite six wheelers, these models are reasonably close to Billinton's designs, and passing them off as the shorter and lower Stroudley stock would appear counterproductive.

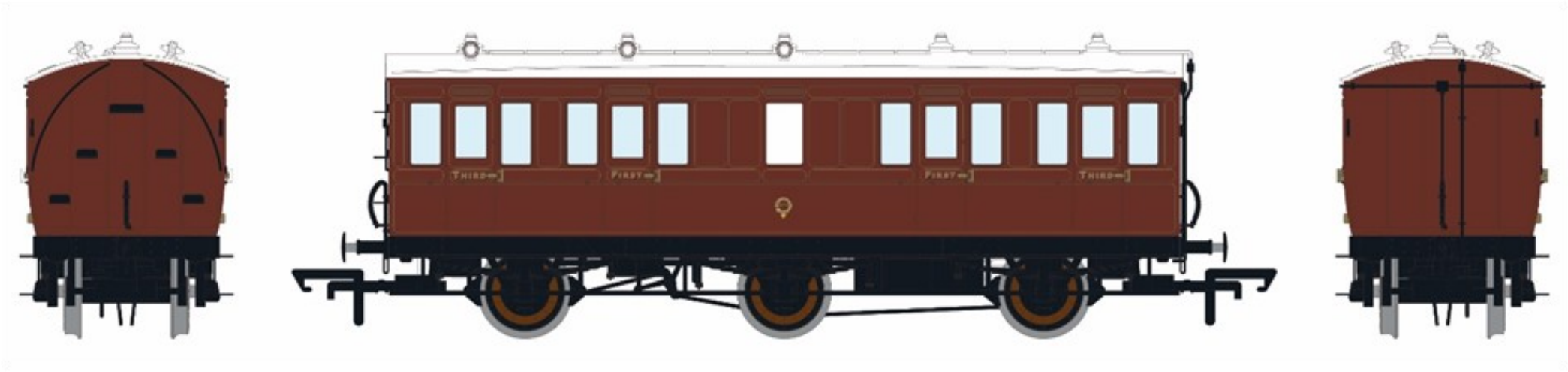


5 compartment Third

Proposed numbers: - Nos. 501 and 501

Both early examples, built 1891.

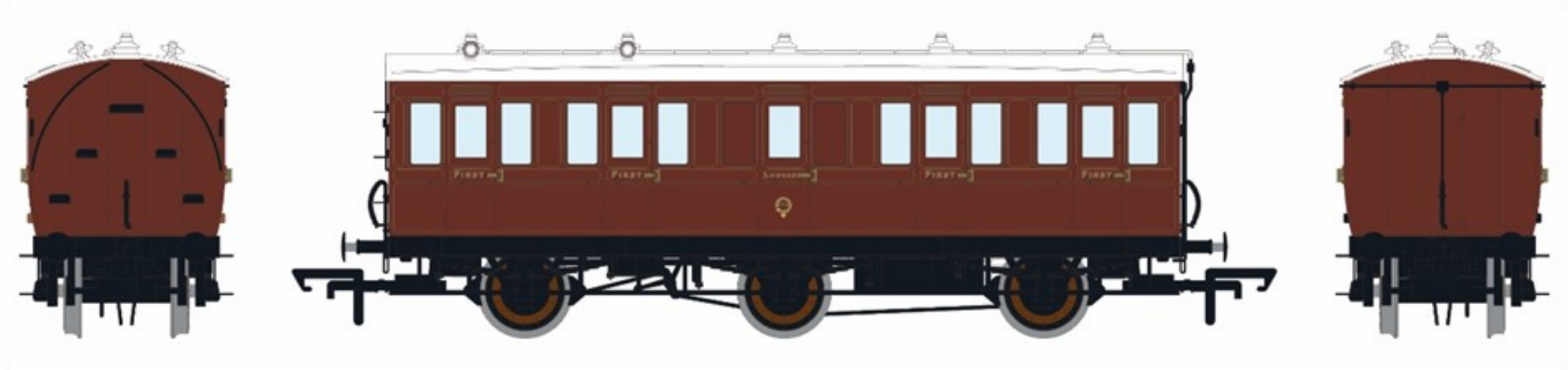
The main discrepancy is that the prototype was only 30' 0" long, compared with the scale 32' 0" of the model. On a positive note, for a period around 1902 this type of coach was built with two levels of footboards, as portrayed on the model.



4 compartment lavatory Composite

Proposed number: - No. 271

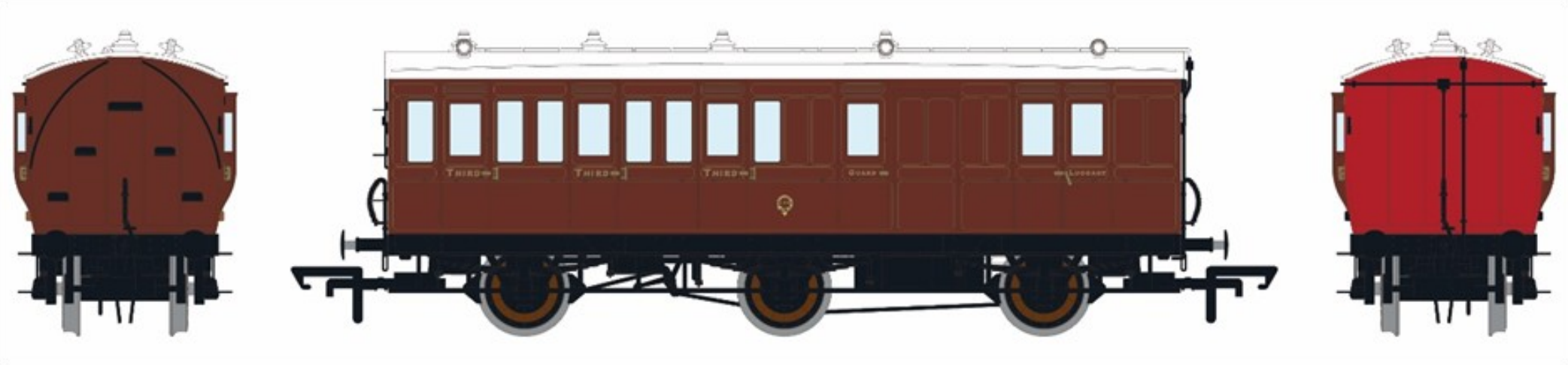
Subject to the general comments, the body moulding is an excellent match to Billinton's D71 First/ Second Composites, and just needs suitable lettering, Second not Third. The number chosen, however, is for Stroudley's version, which was 30' 0" long and to a lower profile. More appropriate numbers might be 250-251 built in 1892.



4 compartment First

Proposed number: - No. 572

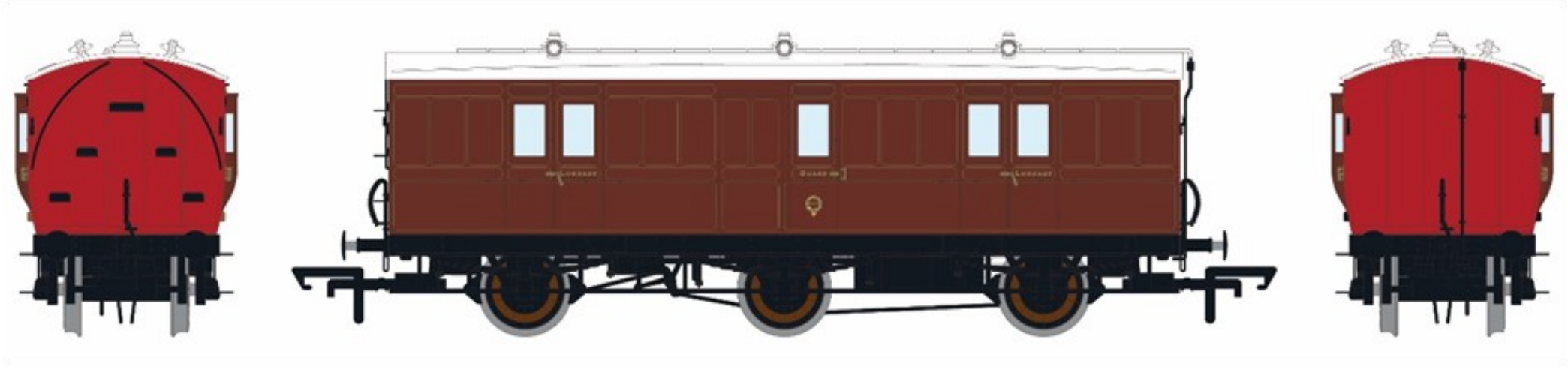
This is actually presented as a First-Class coach with a central luggage compartment. This was a configuration that the Brighton never adopted, preferring its plethora of Full Brakes. The number given is for an 1880 built 30’ Stroudley First, comprising four compartments and no luggage portion. A Billinton Full First had five compartments in a 33’ 6” long body.



3 compartment Brake Third

Proposed numbers: - Nos. 156 and 185

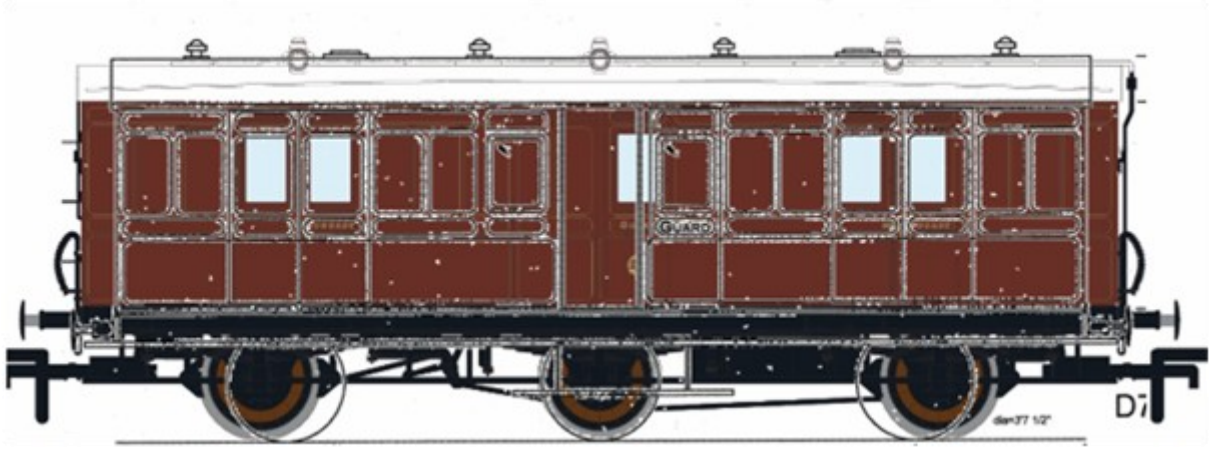
Several issues with this. The basic design, with the guard's ducket away from the end, is not one that appeared on the Brighton, so hard to make comparisons. The Billinton Brake Third was another shorter vehicle, at 30' 0", accentuating the length of the guard's compartment as modelled. The gas tank should be under the passenger accommodation, and the numbers chosen were for vehicles built in 1906, which would not have appeared in mahogany, more likely in umber and white. Slightly more suitable numbers might include 572 – 575, built in 1893.

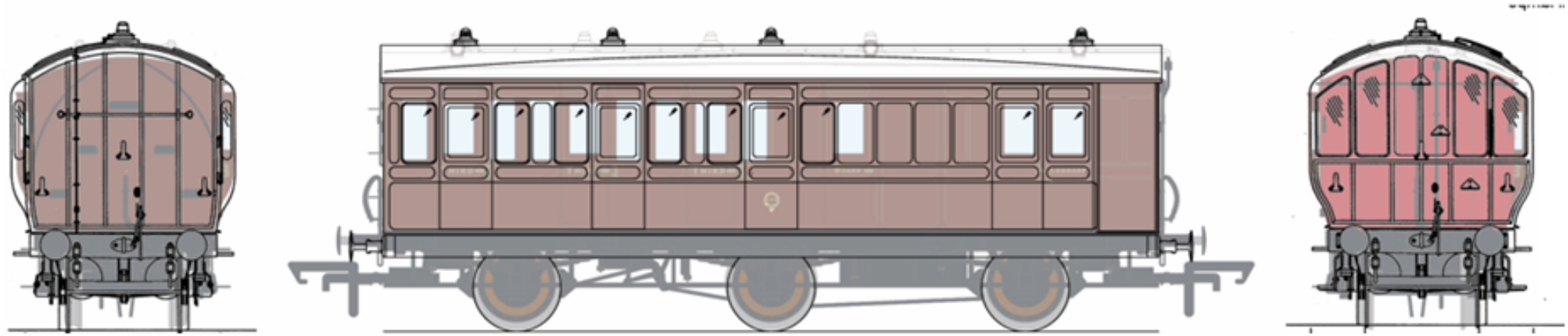


Full Brake

Proposed Number: - No. 496

The prototype was only 30’ 0” long, although the additional length of the model does not seem too apparent, due to the absence of compartments. The profile of the central ducket has the same sharp cut-off, instead of an ogee curve, and the luggage doors did not have windows, although there was a droplight in the panel to the other side of the centrally placed ducket. The number chosen is another 1906 build, which would have appeared in umber, not mahogany. Suitable numbers might be 453-455, built in 1902 and fitted with gas lighting. Early vans had the old-fashioned oil lamps, some lasting until grouping!





Possible alternatives

3 compartment Brake Second

Although only two were built, they were 32’ 0” long, and a better match, although still having issues with the duckets and panels. Nos. 61 and 141, of 1902 and 1905

5 compartment Second

At 32’ 0” long, a much closer match than the Thirds. Possible numbers 31-33 from 1897

Final Comment

The Genesis Project is a daring venture for Hattons to have undertaken, and they have demonstrated a commitment to deliver a detailed and well finished package, within the constraints of a generic design to satisfy as many customers as possible. Purists will no doubt dismiss their idea of generic coaches, but I hope that I have given some positive thoughts, and identified a number of possible alternatives that are within acceptable limits to most, perhaps with a small amount of alterations, at least enough to make them viable place-holders on a layout until all those lovely brass kits can be tackled. Judging from the enthusiastic reception they have received, often from unlikely sources, they have identified a wide market for these coaches, with the potential to offer further liveries in the future. The majority of their customers will probably not be too concerned about the accuracy of the numbers, as their prime concern is to have a rake of coaches in the required livery, but where the models are reasonably close to prototype designs, as here, it seems sensible to identify appropriate numbers (and class designations) as noted. At least it would be one less point of criticism for the inevitable nit-pickers that will greet their arrival.

It is perhaps a happy coincidence that, although intended to be a generic design, many of the variations appear to be good matches to actual LBSC designs, occasionally different from their intended target, although how good will depend upon the individual's point of reference. It might be useful if Hattons could be persuaded to release these fully painted and lined, but without numbers or lettering to allow the modeller to apply their own for greater variety and/or accuracy, and if someone can be persuaded to market some simple additions to assist in making them even better.

There is the worry that the high quality of the finish will make home-built stock look clumsy by contrast, at least for those who cannot afford professional painters, but perhaps it will inspire us to up our game. We can only wait and see, and be thankful we do not model the LNWR, SECR or

GNR, for which companies a lot of more significant issues will have to be considered!

References

For further information, the following books are useful: -

LBSCR Carriages Volume 1 - Four and Six wheeled ordinary passenger stock - White, Turner and Foulkes - Kestrel Books - 2014 - ISBN 978-1-905505-35-7

LBSCR Carriages Volume 2 – Four and Six wheeled saloons and vans, and restorations – White, Turner and Foulkes – Kestrel Books – 2016 – ISBN 978-1-905505-36-4

Southern Style – Part 2 – London, Brighton and South Coast Railway (Liveries) - Wisdom – HMRS – 2016 – ISBN 978-0-902835-32-0

All illustrations in this article are taken from Hattons' website or from Ian White's drawings, except where noted.

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Modelling Bodmer's *Seaford*

by Ian White

In 1845 the Joint Committee had been supplied with two unusual locomotives built in Manchester by the Swiss born engineer J.G. Bodmer. They were unusual because each cylinder contained two pistons that worked in opposition to each other to balance reciprocating forces. Chris Cox has a project to model one of these remarkable locomotives in its original form. One of the pair went to the LB&SCR following the breakup of the Committee and it underwent a series of rebuilds, including the provision of conventional cylinders, and later the provision of a cab. It received its last rebuild in 1871 and was then given the name *Seaford*. Early in 1874 it was renumbered to 292, but later that year it suffered the ignominy of being converted into a sand drying furnace, and its name was transferred to the 2-2-2T recently modelled by Eric Gates (*Digest 11*). A more extensive account of Bodmer's locomotive designs and the projects by both Chris and Ian will be published in a forthcoming issue of *HMRS Journal*.

No official drawings can be found, and Frank Burtt failed to draw it in his original series of articles on Brighton locos (*Moore's Monthly Magazine*, 1896). However, when his articles were reprinted in 1903 as a book, he included a drawing, and a few years later Bennett illustrated the loco as it was in the 1860s. There are clear differences between the two drawings in terms of wheel placement relative to the firebox, and in the length of the boiler. When Burtt's drawing is compared to the photograph of *Seaford* taken in 1874 (Bradley Vol.1 Fig.5), it is clear that Burtt's drawing lacks the accuracy we might expect from an employee in the Brighton drawing office,

which makes me suspect that he could not find an official drawing either! The accompanying CAD drawing reconciles the differences between the Burtt and Bennett drawings and the photograph (Figure 1).

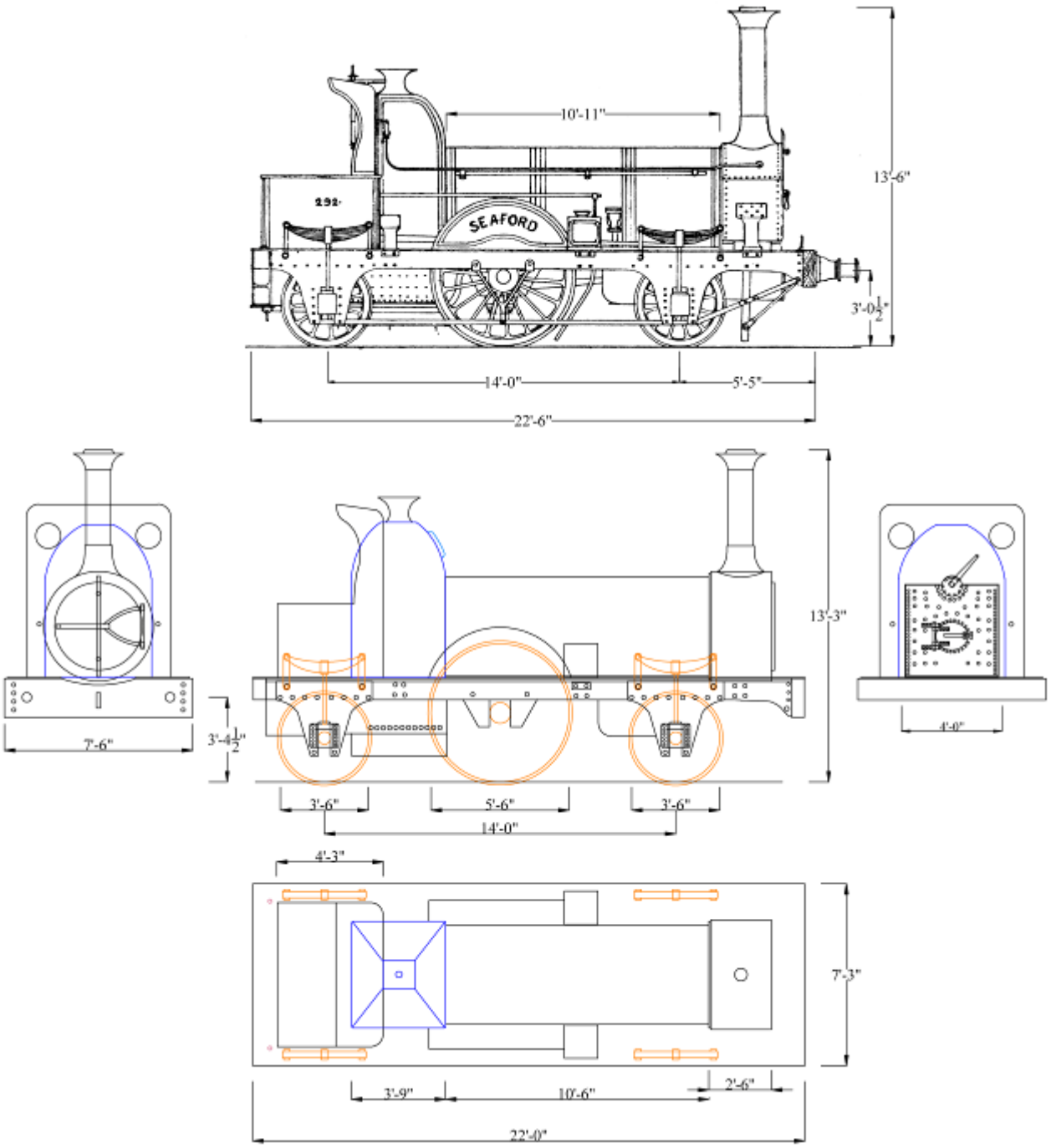

Figure 1. Top, Burtt's drawing of Seaford. *Middle and lower, revised arrangement drawing; orange, outlines of wheels and springs; blue, Haycock dome/firebox. The two drawings have been aligned by the position of the Haycock dome/ firebox, and scaled by the diameter of the driving wheels (the wheelbase was not recorded).*

This model was going to require considerable use of a piercing saw, a tool I have largely avoided in the past as I found it difficult to stop the blade from going slack. So I purchased a Swiss made “Grobet” adjustable piercing saw from a jewellery tool supplier in Biggin Hill; no more slack blades! Most model makers would have started with the chassis, but I reckoned the cab and the Haycock firebox/dome would be the crux of the project, and if I was unable to make those it was time to do something else! After a couple of attempts, I settled on a cab bent from a single sheet of 10thou brass cut using the pattern in Figure 2. The firebox (front section) was also produced from a single piece of 10 thou brass but only the front face was pre-cut, leaving the sides as rectangles. The front face was bent to shape and soldered to a pair of nickel silver formers. The rectangular sides were then bent to meet it, soldered into position, and then cut and filed to fit the shape of the front. Assembly was simple but getting the design right took four attempts. I initially assumed that the cross-sectional shape would match Burtt’s elevation, but the resulting firebox left no space for the spectacle openings to be cut in the cab front.

On the fourth attempt I was happy that I had a firebox shape that resembled the photograph and allowed for the spectacle openings (Figure 3). Luckily, I was able to modify one of the rejects to make the rear section of the firebox to which the backhead was attached. Chris and I agreed on a square design of backhead based on that fitted to the Haycock firebox of the GWR Firefly Class.

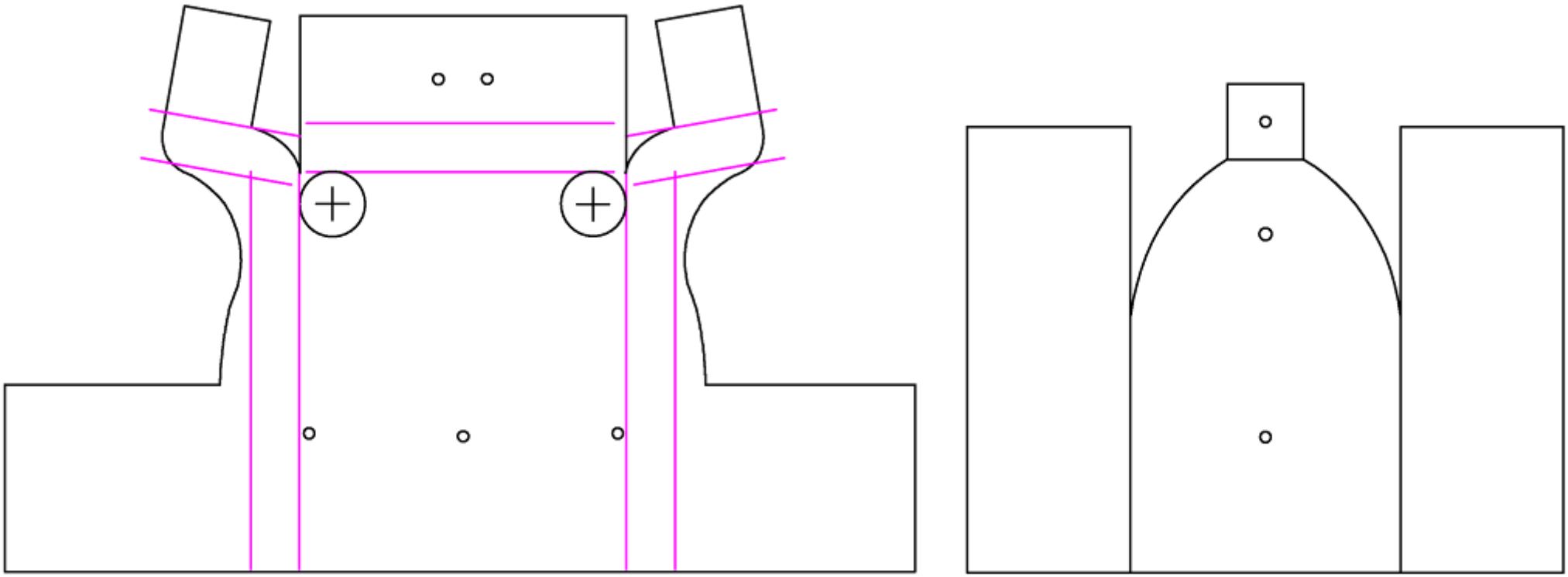

Figure 2. Cutting patterns for the cab (left) and the front section of the Haycock dome/firebox (right). The curved profile of the cab sides between the waist and roof levels was copied from Burtt's drawing. The curve can be seen in the photograph but when lining was being applied it was realised that it was an illusion caused by the background of the photograph; no attempt was made to alter the model after painting. Purple lines, 3mm apart, mark the limits of each bend, hand formed around 2mm rod.

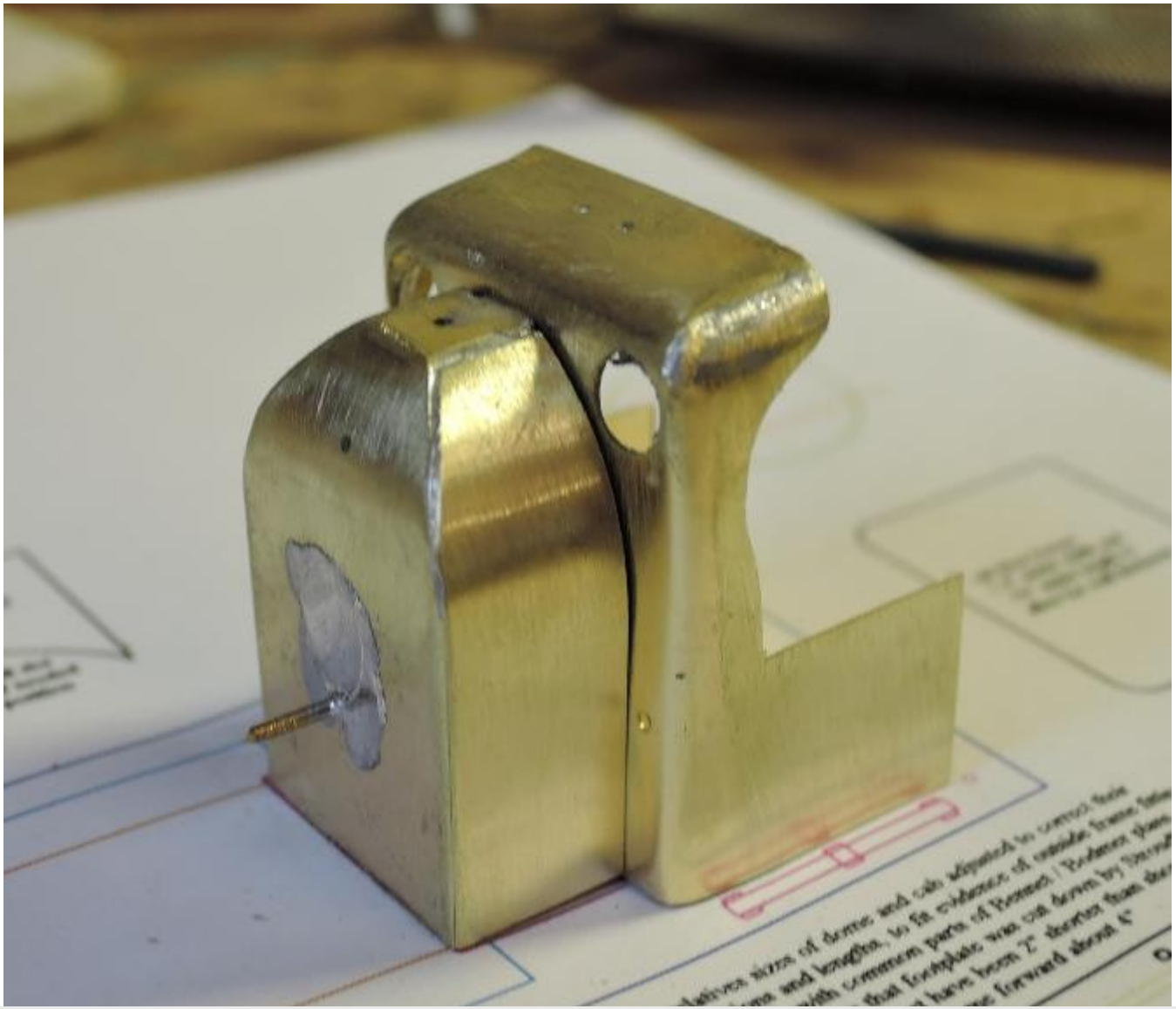

Figure 3. The cab and Haycock firebox sections temporarily joined and tested against my cutting plans. The fold pattern of the cab created a small hole in each top corner that was easily filled with solder and filed to shape. The corners of the Haycock firebox were also filed to create a small radius curve to each edge.

The next parts to make were the inside frames, set to 00-fine standards. On the prototype the trailing wheels would have been supported by the outside frames but for this model all three axles were to be held by the inside frames. Compensation was by twin beams, pivoted close to the driving wheels to maximise the weight that would be applied to those wheels, following a principle described by Barry Luck (*Model Railway Journal,* **4 (20)**:13-15), and the sides of the ashpan formed the beams (Figure 4). The only space large enough for a simple motor-gearbox assembly was the boiler to the front of the drivers, which left empty space over the compensation beam and inside the firebox, so that was filled with lead to provide traction weight. The motor is a Mashima 1015 with a London Road 50:1 single stage gearbox (Figure 5). Electrical pickup was largely based on the use of “earthed” wheels augmented by a single wiper pickup. The wheel to chassis connections were made by soldering Brassmasters “connecting wires for split axles” across the three wheels on the RHS of the loco and the three on the LHS of the tender, and a conventional wiper pickup was applied to the LH driving wheel. The loco chassis was connected to one pole of the motor, and the tender chassis connected to the other pole via a drawbar which was insulated from the loco chassis; the single wiper pickup also connected to that pole of the motor. It was found essential to use very lightweight wire to minimise drag on the chassis compensation mechanism, and the fall plate was made of Plasticard to ensure insulation.

Figure 4. The outline of the inside frames, and compensation beams (lower left). The small blue circles mark the pivot of the beams inside the frames, offset to split the 7ft distance between the wheels at the 5ft / 2ft position; the beams protrude below the frames to represent the ashpan; the front trailing and driving axles were mounted in bearings set into the beams. The rear trailing axle runs in the slot to the RH end of the frames, centrally pivoted against a vertical point, marked in blue; the vertical point was a screw to permit the chassis to be levelled (later soldered and cut off at the frame spacer); green shows frame spacers; red is motor and gear assembly.

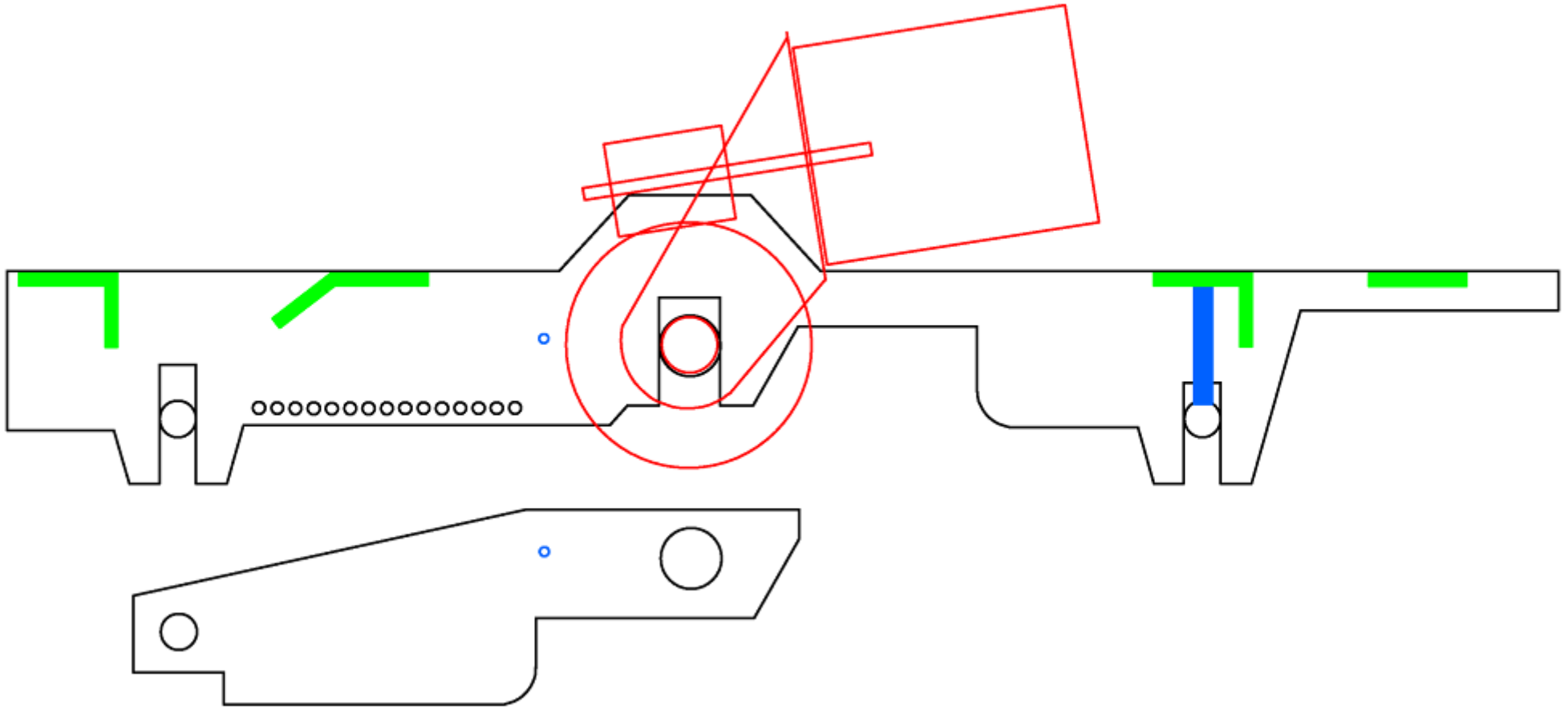

Figure 5. The assembled chassis with the motor angled towards the front. The motion (static representation) and other inside areas still in primer.

The outside frames of the model merely had to support the footplate and give the illusion that they held the bearings of the trailing wheels. The outside frames would have been timber, about 4 ins thick, sandwiched between iron flitch plates. I modelled these thick frames using copper clad sleeper strip, flitched on the outside with 15 thou nickel silver, and represented the rivet detail with wire soldered through the frames. The footplate was assumed to be 7ft 3ins wide, that being a common width in the 1860s (Figure 1). It was milled using a technique described by Terry Bendall (*Scalefour News,* **165:**10-12), and a 1mm endmill was used to cut the slots for the struts either side of the smokebox and firebox.

The boiler was based on a length of 16mm thin walled brass tube and its lower edge was set just above the footplate as per the Burtt and Bennett drawings, although with hindsight I suspect it should have been set a little lower. The smokebox door was hinged on the right and had three locks placed at 6, 9 and 12 o'clock positions, and there was a central vertical structure, possibly locking bars. This door was modelled as a lathe turned plug set into the tube of the boiler.

EB Models are preparing an etched kit for some singles built in 1862 (Nos 153 and 154) which used the same tender type as *Seaford*, and Ian MacCormac kindly supplied a set of the tender etches. E.B. Models also supplied etched loco springs, 5 and 9 Models (Chris Cox) supplied castings such as buffers, and the wheels and frame spacers were from Alan Gibson. Most paints were from Phoenix Precision Paints, and waterslide transfer lining was largely from a former Woodham Wagon Works product. Its name, number and some small lining details were bespoke waterslide transfers printed using an obsolete OKI DP5000 micro-dry printer, which unlike most printers, can apply special colours such as metallic gold and opaque white. The finished model is shown before and after painting (Figures 6, 7).

Figure 6. The model of Seaford *ready for the "paint shop", posed on a shallow diorama depicting a North Downs scene (Riddlesdown Quarry, Warlingham), with a trial fit of some of the small components that will be properly attached after painting.*

Figure 7. The model close to completion. A few small parts still need to be painted and the lining needs to be tidied and finished. The Salter valves, crew and coal load are still needed.

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A Driver's Eye View of Ferring

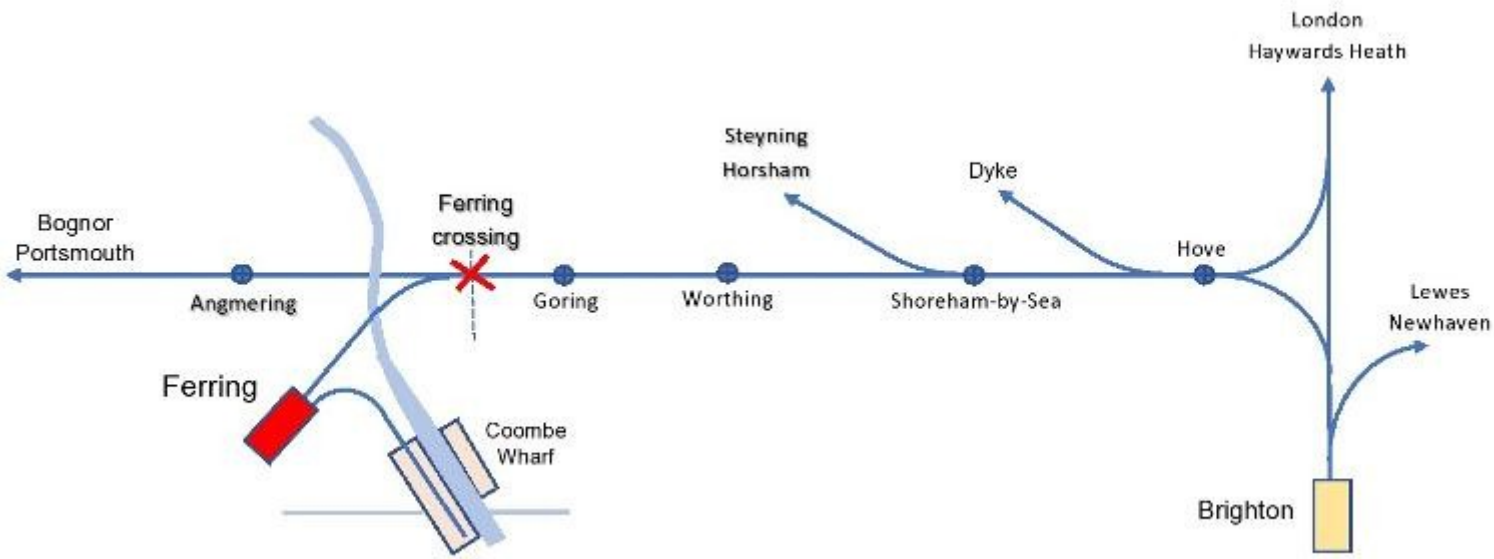
by Michael Ball

Some of you reading this will have seen my layout Ferring. It was first exhibited at Epsom in 1986 and has been on the circuit ever since. It all started after the late Bernard Weller gave a talk to the Epsom & Ewell MRC about a new track system called Protofour. He showed us diagrams, gauges, sleepers, rivets, wheels that did not seem to have any flanges and rail so fine that it was not easy to see which way up it went; everything in fact necessary to build perfectly scaled trackwork. At the time, I was building a new layout using Wrenn spiked track with flat bottomed rail more akin to

‘O’ gauge. I joined the P4 Society and bought all the parts needed for a set of points. The result, in just two evenings, convinced me to scrap all the Wrenn track and start again. The original plan had three parallel tracks with two crossovers in line making a ‘ladder’ across the formation. Two P4 crossovers were far too long and the answer was to build two sets of points either side of a double slip. This was the first track for what became Ferring and was laid in 1971. The layout was going to be ‘Southern’, mostly green but with just a hint of umber. A colleague said why not go back to the 1920s, as there was not an exhibitable LBSCR layout around at that time. Another Club member had a loco built but wanted it in Stroudley livery. The last E4 in goods green survived until 1911. So, I now had to build a layout in a period that nobody could remember and relied entirely on black and white photographs and research.

FERRING LOCATION MAP

The setting became Ferring in West Sussex and like the Bognor and Littlehampton branches, consisted of a double track approach to a coastal town terminus. There is a stream that enters the sea at Ferring, (true). This was dredged and a Wharf was built that enabled steam ships to deliver coal and timber to a small port. (fiction).



Signalling is my main interest in our hobby. I was lucky to be a signal engineer by profession for forty years but knew little of

‘Brighton’ signalling practise as far back as 1911. I have said before that when designing a new layout, do a signal diagram early, then go back and simplify the track plan! Ferring is a good example of me ignoring my own advice. I did a diagram which was approved by another colleague, John Wagstaff, who, at the time, was not only a member of the Epsom Club, but also a Brighton signal expert.

THE COMPLETE LAYOUT

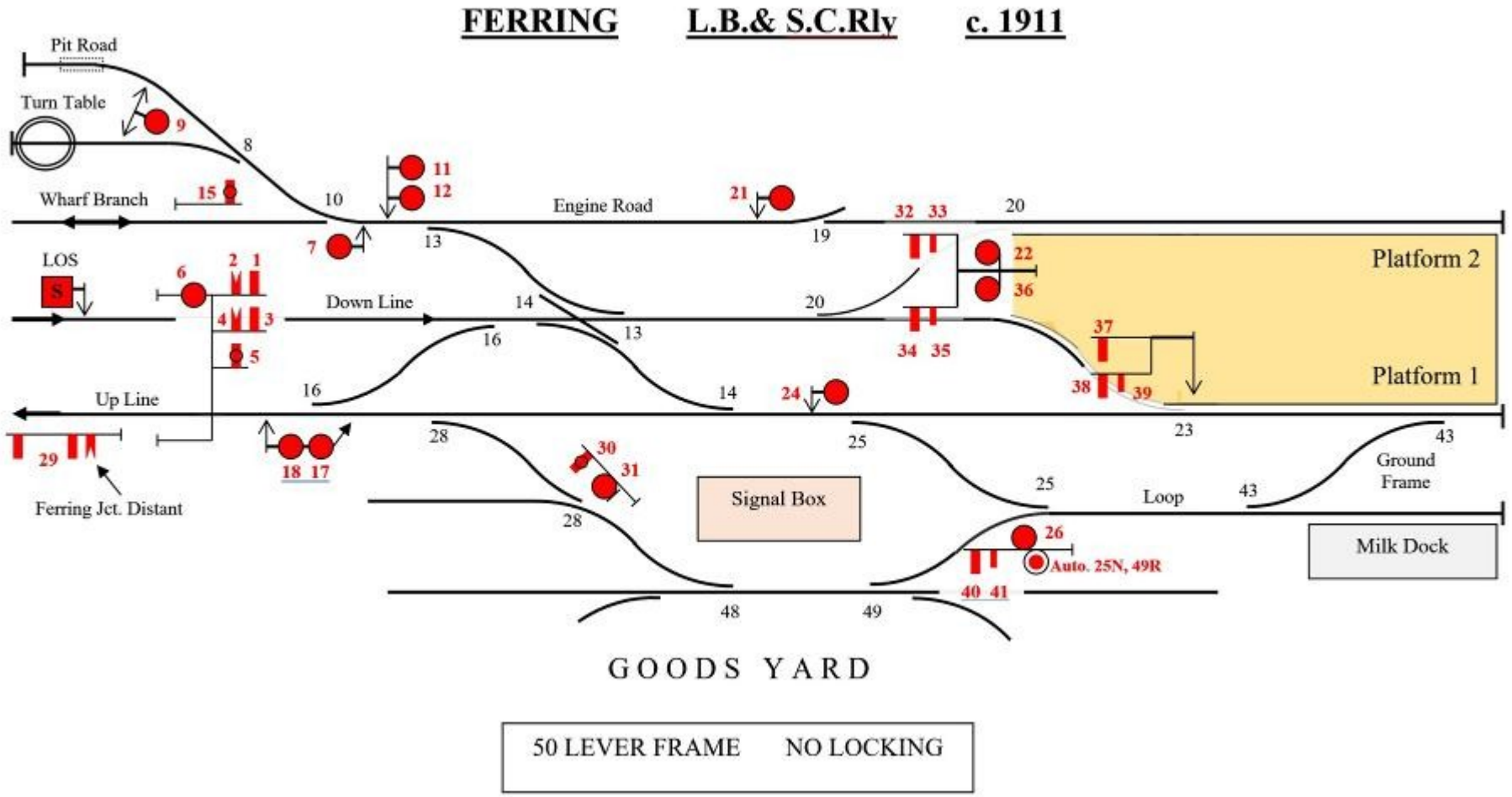
The Epsom & Ewell MRC moved to its new home a few years ago and I purchased our old concrete storeroom. With some colleagues, we reassembled it in my back garden to form a 32ft by 8ft ‘Engine Shed’. Ferring was now able to remain erected between exhibitions for operating and training sessions. You can see the main line going down the bank towards the station. To the left are the wharf branch, and the loco service area with its boarded-over turn table. The main operator is located near the centre of the layout with his control panel and the yard shunter stands to his right. At the far end of the building is a tea bar. I have been told that it should have been a fridge for storing bottles of suitably cold beverage!

PANEL AND LEVER-FRAME.

To operate the layout, there is a control panel and a 50 lever frame. The panel has 7 zones that can be driven by any one of three controllers: the signalman/panel operator, the goods yard, or the fiddle yard. Not being DCC, there are section switches all over the place. Unlike the owner of another Brighton Layout, my 50 lever frame does not have any locking so we can make every mistake in the book, but only at an exhibition. Simulated block instruments and bells connect the station to the fiddle yard and the whole layout runs to a schedule of 36 moves.

MAIN SIGNALLING DIAGRAM.

Passenger trains arrive on the main line from the junction at the left of the diagram and go to one of two platforms. Vans or goods trains and those from the wharf branch will go to the station loop. From here, they set back to the yard and are then shunted or reformed into outgoing trains. Locos will be turned and serviced in the yard before running back to their trains ready for departure. The goods yard has a variety of sidings and a run round facility and trains can depart directly onto the main line behind the signalbox. Now we will look at the signals and their routes.



HOME SIGNAL GANTRY.

This is the most complicated signal that I have ever built. The left hand and centre dolls read to the two platforms. The right hand doll with the short ringed arm reads to the station loop. The shunt disc, No.6 reads to either an occupied platform for a loco going to couple to a train, or for proceeding under caution towards the shunt signal, No.24 at danger just in front of the signalbox. Here the driver will receive further instructions. All goods trains will be brought to a stand at the home signals before being allowed to proceed. They have just come down the 1:60 gradient and this ensures that they are fully in control before entering the loop. You can see that there are Distant arms under the two platform signals. I was once challenged at an exhibition by an observer who said that they were wrong, and the builder should have known better. It was one of the few times that I had the Middleton Press book covering Eastbourne with me. I showed him some photos and he just walked away. In order to speed up trains running into a terminus, John Saxby installed ‘running-in’ distant signals in 1878 at London Bridge, then Victoria, Brighton, and Eastbourne. A clear distant informed the driver that all was clear to the buffer stops and he could proceed a little quicker.

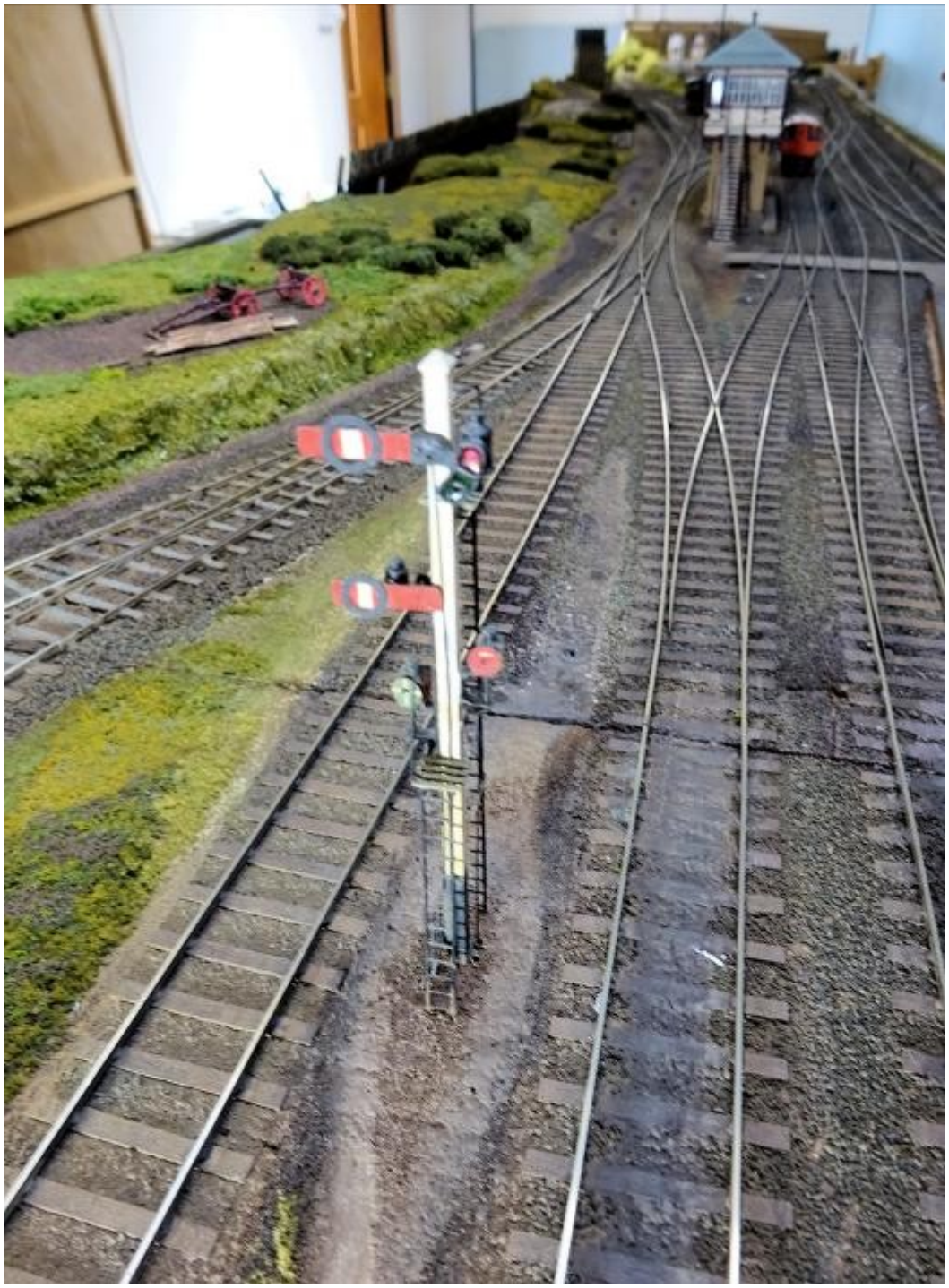
PLATFORM STARTERS.

Now we will look at the signals at the right hand end of the layout for departures from the platforms and the goods yard. At the end of the island platform are the main starting signals. Each platform has the same combination of signals. The upper arms lead out onto the up main line towards Brighton. The lower arms lead out again but this time to the ‘wrong road’ behind the home signal gantry and up to the limit of shunt board. These short arms are used for instance when a loco runs out before returning to a train in the other platform. The shunt discs read to the engine road on the way to the loco yard or turn table.

A clear signal arm indicates that the line is clear to the next signal. So, a loco, leaving a platform to carry out a shunting move in the goods yard, will get the main arm clear to proceed onto the up line before going back to the goods yard via No.28 points. It is a ‘shunting’ move but does not require a shunting signal. The main arm leads all the way to the advanced starter at the top of the bank by the bridge.

PLATFORM INTERMEDIATE STARTERS.

There is a set of points near the end of platform 1. Therefore, from here there are two possible routes. A short train like the 4 wheeler rake or motor train can depart going straight ahead to the up line using the left hand signal. Like the previous signals, the lower short arm reads out to the down line behind the home signal gantry. The loco of a passenger train with more than five coaches would be stood on the curve in the platform beyond the intermediate signals. When departing, this train would require the right hand signal, No.37 to be clear as well as signal No.34 at the end of the platform. The train would depart using No.16 cross-over to gain the main line. A loco wanting to go from platform 1 to the turn table will be routed around the curve and then given a shunt disc for access to the engine road. I said a complicated layout results in complicated signals!



YARD EXIT Nos. 40/41

The exit signals from the platform loop are used for empty stock and vans, locos going to the turn table, short goods trains and the wharf trip working. On one post there are two arms and two shunt discs. Like departures from the platforms, the top arm is for the up main line and the lower arm is for shunting out wrong road. The left hand shunt is for movements into the goods yard. The right hand disc reads right across the whole layout to either the loco area or the wharf branch.

YARD EXIT BEHIND THE BOX

Here we have the main signal, No.30 for longer goods trains leaving the yard behind the signalbox and climbing the bank on their way to Ferring Junction, Brighton, or London. The shunt disc here would be clear all the time giving free access for shunting the sidings. It would only be replaced to danger when either the main arm is cleared, or the points have been reversed for an in-coming move from the main line.

THE ADVANCED STARTER.

The advanced starter, No.29 is the signal controlling entry to the next block section. Because Ferring Junction is quite close, its distant is mounted on our signal post. It works automatically, sometimes it clears and sometimes does not, depending on the condition of the route ahead. The distant arm has a ‘slot’ to ensure that it cannot remain in the clear position when the main arm is returned to danger. Peter Swift built this signal, but I did not expect him to make an actual working balanced ‘slot’ in P4. The line from the station climbs a 1 in 60 gradient on the approach to this signal. To assist loco crews, the advanced starter has a co-acting or ‘sky arm’ at the top visible from the station platforms. A driver seeing the clear signal knows that he can accelerate up the bank without the risk of having to stop at the signal unless of course, it has been replaced to danger.

WHARF EXIT SIGNAL.

Ferring's history relates that all the signalling was improved and up-dated in the early 1900s. The wharf branch, not being particularly important, however, retained its original signal post. The arm is mounted in a slot and does not have its own aspect casting. The lamp showing a red or green light and of a revolving type is fitted further down the post. As an exercise, try making one of these!

SHUNT SIGNALS.

The Southern Railway used just one shunt signal at a location and expected the driver to know where he was supposed to go, even in the dark. Other Companies, like the ‘Brighton’ installed more than one disc to indicate all the available routes from that signal. Ferring has many shunt signals mainly on the ground. Here, we can see three versions of them. At the trap points in the engine siding is a single disc as there is only one route to the platform. It is arguably better to put an engine ‘in the dirt’ rather than

have a collision. The traps have proved to be most effective, usually at an exhibition! Ignore the shunt signal at your peril! Further back (previous page) there is plenty of room, so these two discs are mounted side by side. The left hand one for going straight on and the right hand one reading across the main lines towards the station. The last two (above), numbers 17 and 18 are close to the edge of the embankment so are mounted one behind the other. The higher one at the back is for the left hand route and the lower one to the right into the goods yard. I have seen a photograph of a stack of three discs at East Croydon.

In the process of building Ferring, I have learned much mainly from photographs and studying signal plans and I hope, through this article, you have learned a little bit too.

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LB&SCR Travelling Hand Crane No.19

The Crew's Riding Van - Part 2

By Colin Paul

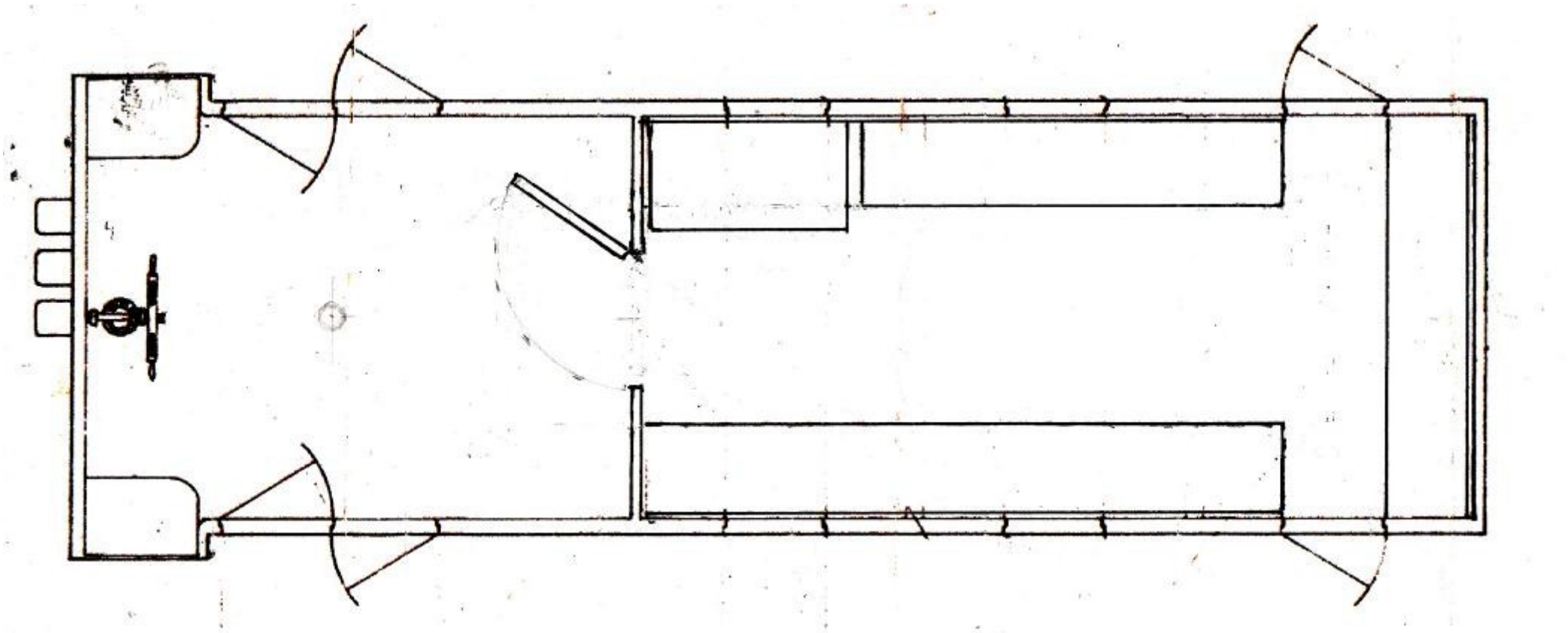
The Body

The tumblehome on the first bodyside was formed first. Even though the brass had been half etched, it was still very hard to roll (as was mentioned in the underframe section) even to the shallow curve profile. My first thoughts were “wrong grain”. The bottom flange was done next. This too proved very difficult to bend, even though I have proper bending bars. The top edge of door and compartment moulding lines distorted quite badly with a much sharper curved profile. In fact, it looked terrible. The solution was to straighten out the flange, anneal this time along the etched line and start again. In doing so, I creased some of the panelling. It took me quite a long time to rectify this curvature to a degree. Even after annealing, it was still hard to form, but slightly better. There is still a small amount of distortion along the edge which I will have to live with (just). After these problems were discovered, the top flange was annealed and bent accordingly. With a good amount of annealed heat, the second bodyside was formed. In all of my years in making kits, this problem has never arisen before. Perhaps the brass used was slightly thicker than normal. So be warned.

All (10) droplights were soldered next, then the (10) door vents, and finally the (8) bottom door hinges added.

As with many etched kits, the middle and top hinges on doors are not represented. The only representations are small sunken in rectangular recesses. Noticing the hinges protrude out on the photo, I wanted to represent them. Measuring the recesses, each hinge worked out at 1.4mm in length. A length of thin scrap brass (from the etch) was filed accordingly. Each hinge was then cut to a length of 2mm. A small rectangle was then filed off the bottom leaving a small spike 0.6mm wide. 0.7mm holes were then drilled in each of the etched hinged areas for the spike to pass through. Each `new` hinge was positioned and soldered in from the rear. Each one was filed back with a small protrusion showing. This completed the sides.

Fig 1. LB&SCR schematic bird's eye view of ex- Stroudley LB&SCR 3rd/brake.



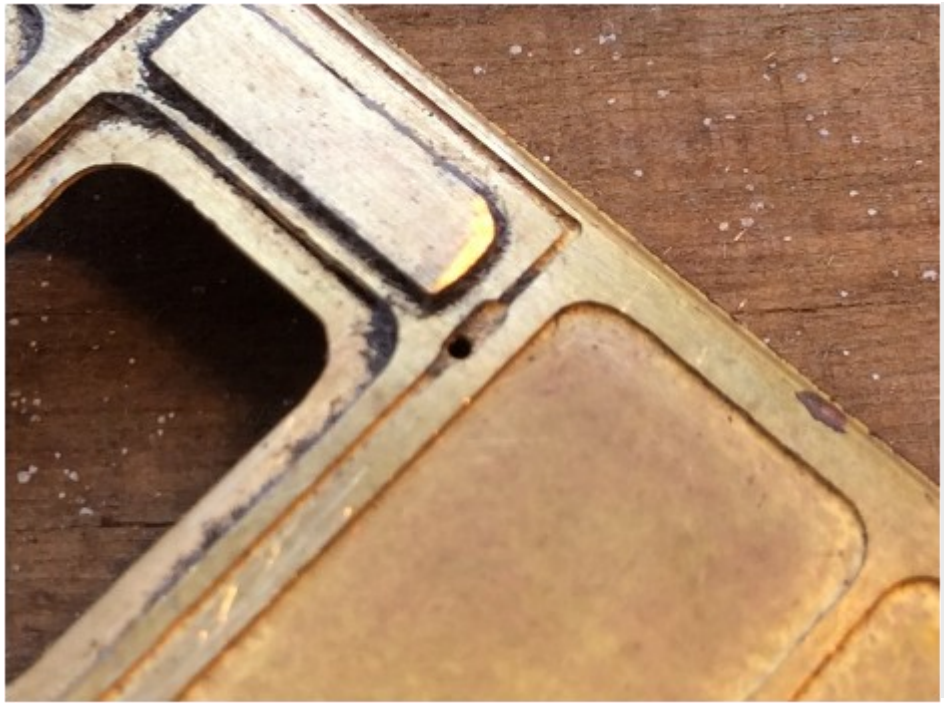


Photo 16

By the time this photo was taken, the sides had already been removed from the fret, roof bonnets and droplights soldered in place, and the tumblehome formed (shown in subsequent photos). Clearly shown are the non-prototypical, half-etched door hinge slots which, in reality, should be just proud of the bodyside. As an experiment, I drilled out a small hole within the slot for a homemade hinge. If the experiment did not work, the hole could easily be filled in with solder.

Photo 17

The ‘hinge’ design I came up with was to file an elongated ‘L’ shape from scrap brass etch. Each one is 1.5mm long by 1mm deep, not including the point. The pointed end would be inserted into the predrilled hole within the slot of the recessed area (as shown in Photo 16) and soldered in from behind. After a successful outcome on the first door, the rest of the hinges were formed, then fitted to the rest of the doors. Shown is a poly bag full of hinges, which were not the easiest to fabricate or photograph.

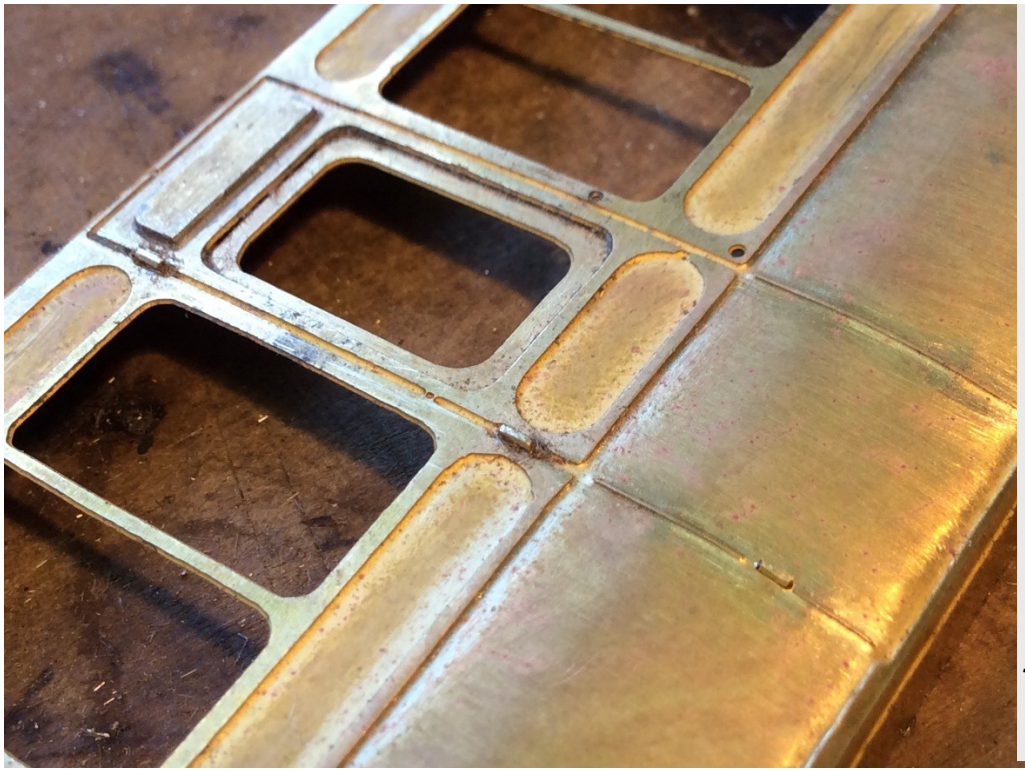


Photo 18

A pair of hinges have been fitted and totally transform the external appearance of the door, which now looks more prototypical. The lowest hinge (which is provided in the kit) was fitted as per instructions. It was bent at right angles on the half-etched line, then soldered in place from behind through the pre-etched slots. Also clearly shown is the shallow curve of the tumblehome, just below the waist panel.

DUCKET END SUB ASSEMBLY (as per instructions)

The ducket was removed from the etch and cleaned up. Before any work was done both half-etched lines were annealed. Whilst in the flat, I also annealed the areas where the top (roof) curvature would be and the lower reversed curve of the ducket. The lower half panel etched overlay was soldered in place. One side panel was bent at right angles; surprisingly this corner folded crisply. When perfectly square to the end, a fillet of solder was applied in the crease behind. The easier roof curve was done first. The lower reverse curve took some time making sure it matched the curvature of the ducket shape. When formed, and prior to soldering from behind, I noticed the side panel was 1mm too short up from the bottom edge, and it protruded outside the profile of the ducket`s edge by approximately 0.75mm. There was an unsightly long strip of around 18mm devoid of brass. So a 1mm wide brass strip was pre-bent to shape and

soldered in place. The excess brass was simply filed smooth. The same applied the horizontal bottom edge. When folding back the other (inner) ducket end by the Guard's door, the profile of it did not match the curvature of the front ducket (strange). So they were removed (snapped off), re-profiled by filing, and re-fitting.

On the photo there are clearly two curved vertical beading strips on the ducket's outer face and one horizontal one along the bottom edge. Not having any half round brass, 0.5mm brass rod was used instead. All were pre-bent. In hindsight 0.4mm or even 0.3mm rod should have been used. Visually they are not too bad. Each one took well over half an hour to bend. Tweaking, bending, straightening up, then re-bending again was very frustrating. They only way they could be attached was by spot soldering. When happy they were perfectly vertical on the edges, they were soldered on properly.

Photo 19

The ducket end was constructed as per instructions. I noticed all of the half-etched holes (on the back) that represent the securing bolts on each lamp iron were etched right through. Having a spare etch of lamp irons (source unknown) they were used instead. As mentioned in the main text, the brass was rather hard to bend to shape, even after annealing. The ducket sides were no exception and required several attempts to get the correct profile. When done, I noticed very large slots where there was no brass on each of the corners, which is unavoidable. To fill in the gap, a strip of waste brass was bent to the same profile which would eventually be soldered in place.

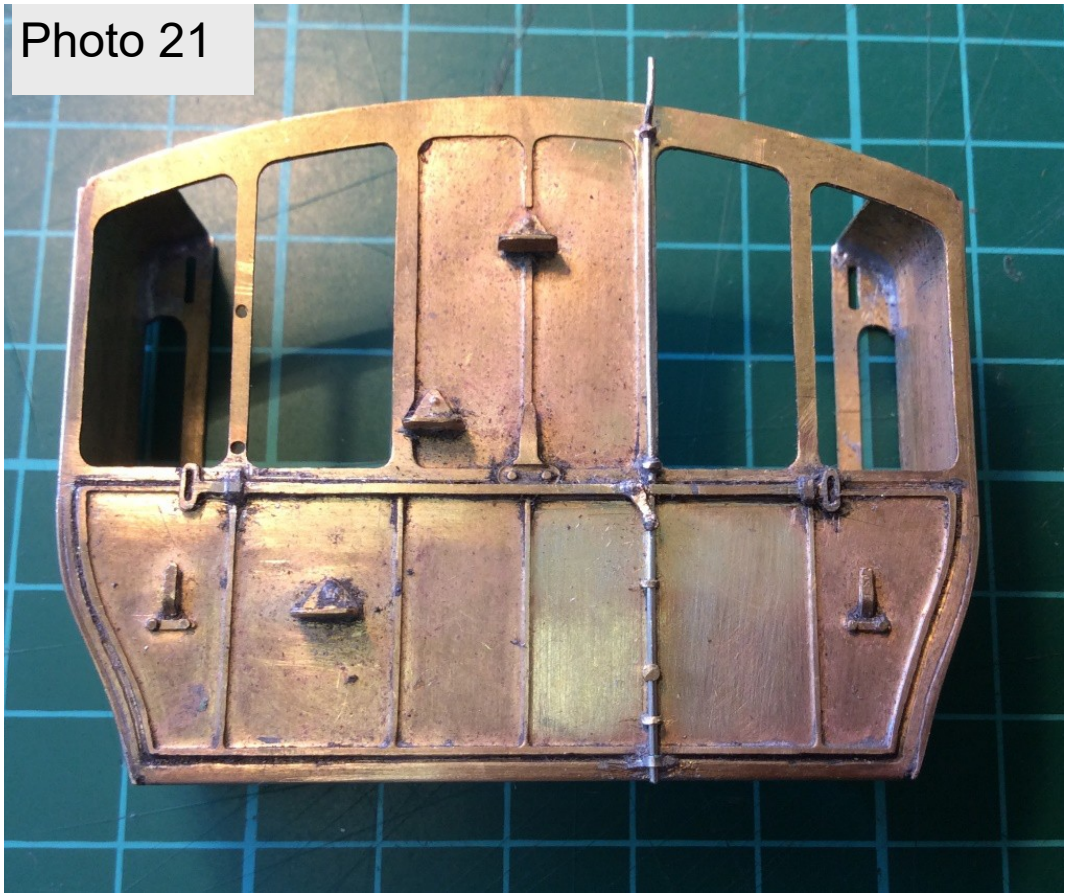
The very distinctive key hole escutcheon plates, which are located high up on each ducket side, were tackled next. Scaling up one of Ian’s drawings for a Stroudley D47 Full Brake gave their exact size of 2mm in diameter and their position. Thin discs were cut from a 2mm brass rod then a 0.6mm wide by 1.5mm long slots drilled and filed out.

Photo 20

After the shape of the duckets was formed and soldered, the guard`s lookouts were bent back at right angles. I noticed straight away that neither were to the same profile as the ducket`s inner profile. The only solution was to break them off entirely and re profile each one in turn. The dirty one on the right is the original shape, as noted by its chunkiness. The one on the left is noticeably narrower especially the lower half, being filled down to nearly a point. Although not noticeable in the photo, the window has also been slightly enlarged.

It was now time to add all of the bits and pieces on the ducket end. The first item to fit was the vertical gas pipe. Measuring from the photo, it worked out at 0.6mm in diameter so n/s was used. The securing pins, brackets, and stop cock, which are so small that they are barely visible, required making from scratch. Many ended up on the floor, pinging off the tweezers. Holes were drilled in the end for the pins etc and soldered on from the back. The horizontal by-pass rod (the rod with the two looped ends) was used from the kit, but it was 5mm too short. A small piece was inserted when fitting. The small by-pass cock was again made with very small securing pins.

Photo 21



The complete ducket end, with the addition of many scratch-built items that are not included in the kit. I have copied it from the Battersea photo as best I could. Barring the etched horizontal bi-pass rod with hand holds on each end (which came from a spare unused MSC carriage kit), and the footsteps, all of the other items are scratch built from pieces of scrap brass. These include the bi-pass cock, stop cock, all of the brackets and home turned pins. The vertical gas pipe feed is 0.6mm n/s rod. For the moment, it is too long and sticks out above the roofline. It will be cut shorter when the roof is fitted. The two etched holes for the vertical grab handle (left-hand side windows) will be filled in as they are not required. By the time the Battersea photo was taken, the handle had been removed.

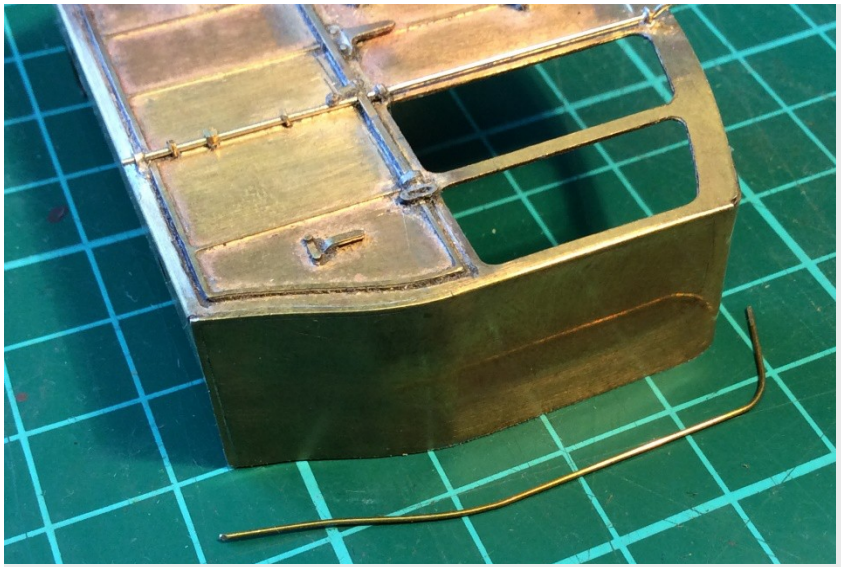


Photo22

Not the best of views but it clearly shows the smoothed off ‘S’ shaped packing piece on the duckets edge. When both duckets were formed, I found both bottom edges were too short by a good 1-1.5mm. These gaps also had to have packing pieces soldered in position and made good. The characteristic vertical ‘beading’ on the sides was painstakingly formed to shape using 0.5mm round brass rod. The excess length of rod will be trimmed back after soldering in position.

Photo 23

The two vertical beading strips soldered in position and cleaned up. Just visible on some photos, are bottom horizontal beading strips. This feature has also been added which can just be made out over the narrow packing piece mentioned in Photo 22. The distinctive and very tiny key hole has also been added to the ducket panel, which was formed and slotted from scrap brass. Its size and final position were determined from a 7mm scale print of a Stroudley four-wheel full brake to LB&SCR D47/222 as shown in Fig.5.7, Page 115, LB&SCR Carriages Vol.2. When the two tabs on the bodyside were offered up to the two slots, I found the sides tapered inwards towards the end and not at all square. The tabs were removed and the body soldered inwards by 2mm. The slots would eventually be filled in with scrap brass.

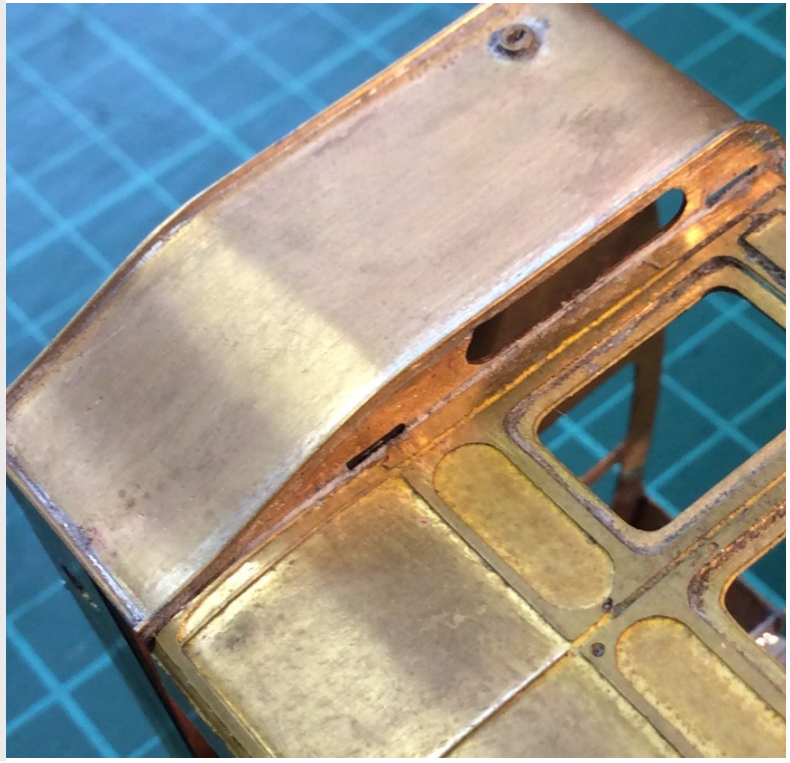


Photo 24

To make things more complicated, there were two problems with the other bodyside. The same problem arose (as mentioned in Photo 23) with the bodyside tapering inwards towards the end when the tabs were offered up though slots. I then found the body length on this side was too short. With the ducket end flush with the headstock, the headstock on the non-brake end protruded outwards by 1.5mm. The only solution was to pack out the overall length of the body with a ‘packing piece’ made of nickel silver strip, which can just be seen, soldered in from behind. After painting, it would not be seen. The gap on the roofline was not filled in, as it was not structural and would be hidden when the roof is fitted. The bottom slot can still be seen which will also be filled in.

BODY ASSEMBLY

At long last it was time to assemble the body. For ease of construction, four slots are provided on each ducket end. These correspond with ‘lugs’ on the body sides. After a small amount of filing of the lugs, the sides were offered up and tack soldered in place, making sure the sides were parallel with the outside face of the ducket sides. The non-brake end was then tack soldered onto the two bodyside ends. At first glance, everything looked fine but obviously very flimsy. Placing the body onto the top of the underframe, the first of a couple of problems showed up. Both bodysides tapered inwards quite sharply towards the back at an alarming angle. The other problem was the overall length of the left hand body (looking at the brake end), which sat inwards over the headstock by a good 1-1.5mm (the right hand bodyside was perfect by the way) making the non-brake end at an angle. Not a nice start thinking it would be a quick solder job, so the whole body was unsoldered.

The first thing to correct was the tapered side’s problem. The only way out of the problem was to remove all four lugs from the bodyside ends, then resolder both sides inwards by 1.5mm on each side. After doing this, the body was reassembled again. The bodysides were now parallel with the ducket sides.

Correcting the above problem, I had totally forgotten about the angle on the non-braked end, so the offending side was removed. The overall problem seems to have stemmed from a slightly shorter ducket length (not visual) when it was formed. A packing piece would have to be inserted somewhere to lengthen the side. If this was inserted to the left of the non-brake end window, it would clearly show up a thicker corner piece than the other side. The only other solution would be to add a strip to the right of the Guard's door. A strip of 2.5mm n/s strip was used with a 1mm wide strip soldered on one edge. (after fitting it could be filed back to the correct length). It was cleaned up and pre bent to the tumblehome profile. It was then soldered to the back of the body. The body

The body was then offered up. It was, as mentioned too long, so the packing piece was very carefully filed back towards the Guard's door. When happy with the overall length, the body was then tack soldered in place again. At long last, a perfectly fitted body. The whole body was then soldered up properly.

As ends are very thin due to the etching process, both require pre curved stiffening strips soldered around the top edge of each one. Firstly, it protects the ends from damage, secondly it protects them from being pushed inwards with handling and thirdly it aids the clip-on roof system. I chose 4mm wide n/s strip, pre bent to the roof profile and soldered in place.

Internal floor (scratch build deviation from the kit)

There is no floor provided in the kit. Dave suggests a plastic one glued in place. Since I do not like this idea, and never have done in the past, I fit a brass floor wherever possible. A card template was made that fitted snugly within. An 18thou piece of brass was then cut out from a sheet in stock (Eileens Emporium SBA018B) and soldered in place. While I was at it, four holes were drilled out in it corresponding with the holes in the underframe that secure the body to the frame. Captive nuts were then soldered in place. The nuts at the non-braked end will eventually be hidden by a seat, but the ones in the Guard's compartment will have to be hidden somehow.

Guard’s seats

There are two wooden guard's seats that are positioned directly behind the side panels of each ducket. I copied the style from Plates 1.28 and 1.35 on pages 35 and 38 in LB&SCR Carriages Vol.2. Two pieces of 0.5mm thick scrap brass were soldered together and the shape scribed on. After cutting out and filing, they were soldered in position.

Photo 25

By the time this photo was taken, a floor piece (not supplied in the kit) had been cut out and soldered on from the underside. With the body positioned on the underframe, holes were then drilled out for the four captive nuts that secure the body proper to the underframe. The two nuts on the non-brake end would eventually be hidden by the back seat, but the ones by the duckets, shown here, are in full view and cannot be easily be disguised. The Guard's seat was copied from Plate 1.35, Page 38 in LB&SCR Carriages Vol.2. The ducket end is very flimsy and prone to damage, so I strengthened it by soldering on a 4mm wide nickel silver strip (0.5mm down from the top edge). This strip also acts as an anchorage point for concealing the roof clips. The extra nickel silver packing strip as mentioned in Photo 24, lengthening the body, can clearly be seen to the right of the seat.

Internal partition with door (scratch build deviation from the kit)

The first thing to do was a scale 7mm partition with an internal door. I drew the door from one fitted in my house (6' 6” x 2' 6”). I knew from the start that the door was on the high side, but it was in proportion (perhaps the floor on the real carriage is slightly lower than the one on the model). If in reality a lower narrower door would be used, the crew would have to have stooped down all of the time passing through it. From the start, I thought it would be an idea to have the door in an open position. If viewed directly from either side or from the end, one could see all the way through. The partition would have to be made from metal so it could be soldered onto the inner body sides.

The door was made first. Thinking one thin thickness of brass would not be thick enough, three 18thou scrap pieces of brass would have to be used (two for the outer panels, the other forming the inner recessed panel). The two outer panels were soldered together, then a photocopy of the drawing attached on top, using doublesided tape. The recessed panels were then carefully cut out with a piercing saw, filed, and made good. Both were then soldered to the inner panel and re-filed smooth again. Hey presto, one complete door. A small hole was drilled out for a pair of home turned 1.2mm diameter brass door knobs.

Two partitions were then made, again from two thicknesses of 18thou brass soldered together. It was trial and error getting it to fit snugly inside the body. It was also imperative the curvature of the roof was no higher than the ends. The door aperture was then cut out. After separation, one partition was thickened up, using thin scraps of 2mm wide 18thou packing pieces, which were strategically positioned. The other partition was then simply soldered in place. To my amazement, the door still fitted within the hole. To complete, 3mm x 0.75mm thick skirting boards were fitted, plus 2mm x 30thou n/s strips for the door architraves.

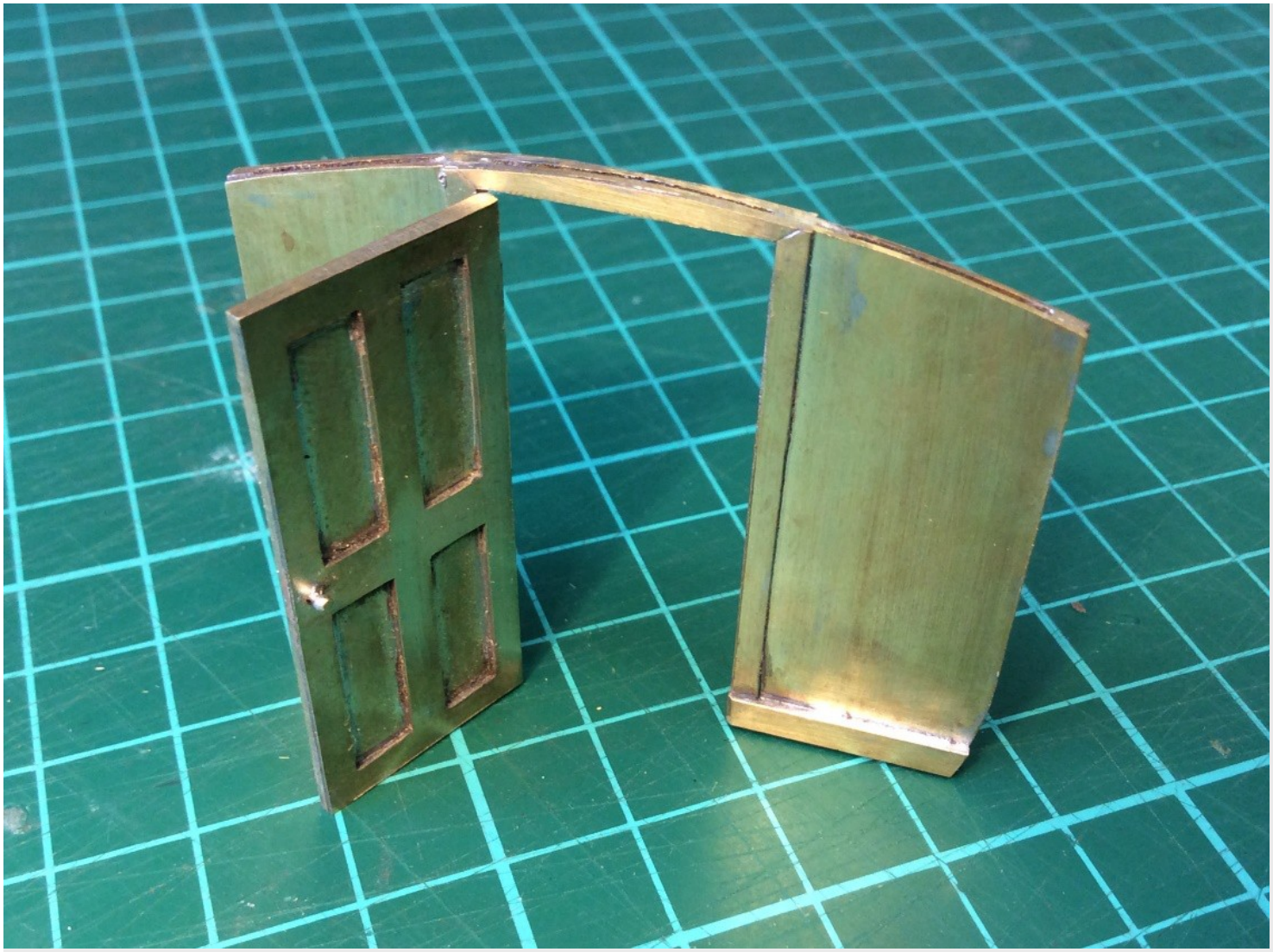


Photo 26

As mentioned in the main text, I decided the model would feature a door connecting the Guard's compartment with the rest of the carriage. A door was drawn to 7mm based on the internal doors in our house. The door was made up of three separate layers of brass consisting of an inner and two outer pieces soldered together. Two round brass doorknobs were turned up and fitted. A cardboard mock-up of the shape of the partition was cut out for a trial fit. Two pieces of brass were then cut, leaving an opening for the door. The partition had to be thickened up slightly to the door thickness by sandwiching narrow strips inside. Front and back skirting boards were added, then the architrave. The door was then soldered in place in an open position.

Door hanging

To secure the door in place, I made three small (fixed angle) hinges. Deciding what way the door would be hung, I soldered them onto one edge. Thinking the door would look better near enough fully opened, a small amount of tweaking was required getting the hinges all at the correct angle flat against the opening. With the aid of Blu-tac, the door was held in position so the hinges could then be soldered in place.

Fitting the completed unit was pretty simple, making sure it was square and vertical. I did move it inwards slightly into the Guards compartment by 2mm. This extra space gave a larger area for the glazing to stick beside the end windows.

Guard's seats (scratch build deviation from the kit)

There are two wooden Guard's seats that are positioned directly behind the side panels of each ducket. I copied the style from Plates 1.28 and 1.35 on pages 35 and 38 in LB&SCR Carriages Vol.2. Two pieces of 0.5mm thick scrap brass were soldered together and the shape scribed on. After cutting out and filing, they were soldered from underneath.

Clip on roof (scratch build deviation from the kit)

Before any roof detailing takes place, my clip-on system has to be fitted. It is a method I have used for many years. At the ducket end a short 12mm length of 4mm wide n/s strip was first cut to length, then bent in the middle. The flat part is then soldered onto the underside of the roof in a central position roughly 2-3mm in from the end. It requires quite a lot of tweaking getting it in exactly the correct position for equal overhangs both ends. The non-braked end has a simple "L" spring clip. Again, it requires tweaking for a tight fit. Four smaller "L" bracket side guides were pre bent and soldered in position making sure the overhang on the sides are the same. Each one touches the edges of the top flange.

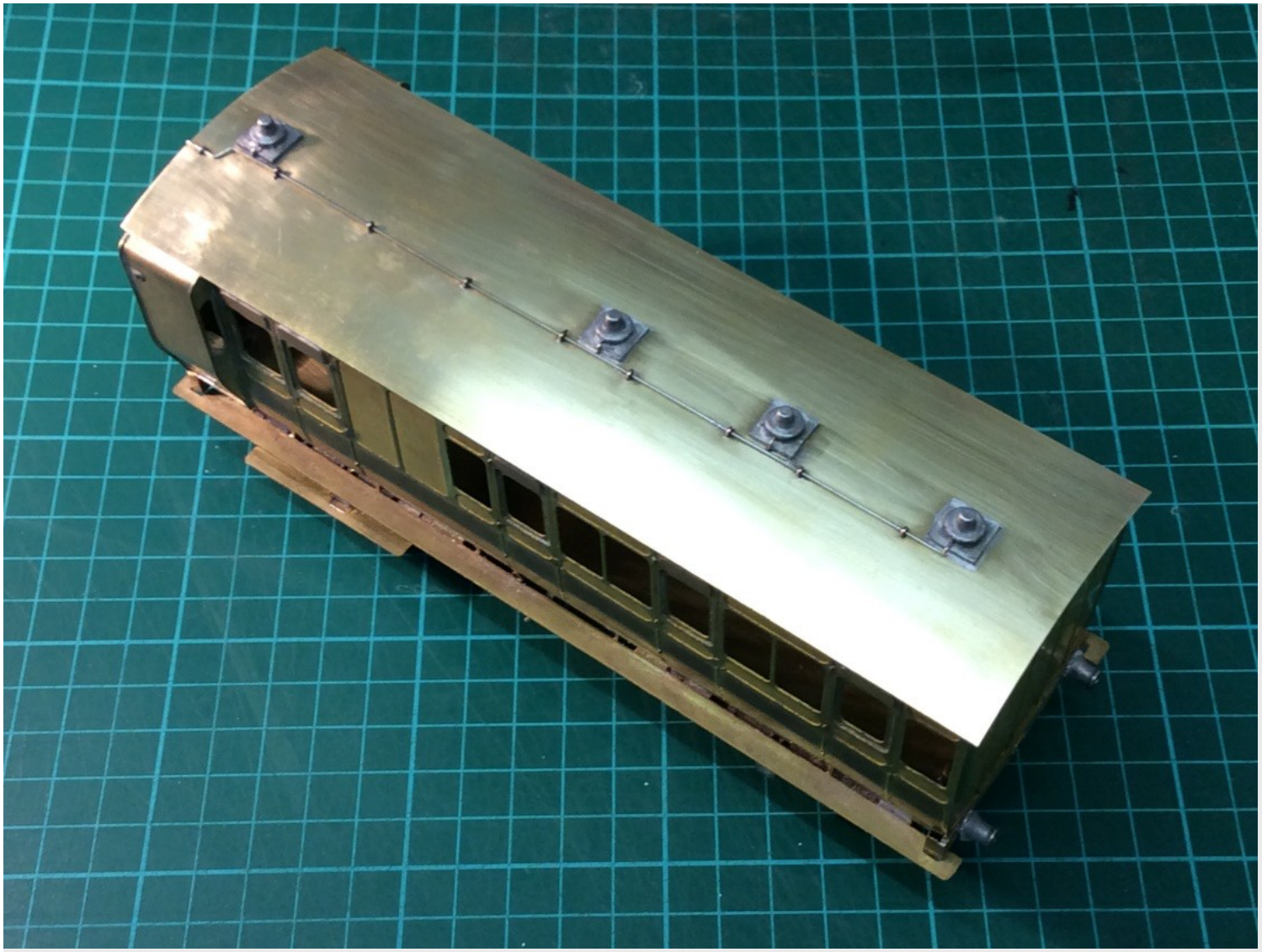


Photo 27

The supplied roof did not require any remedial work. It is secured by two end spring clips and four side guides. The whole roof can be removed and re-attached easily. The gas lamp top castings (from the kit) were soldered on, making sure they lined up centrally with a compartment. From what can be gleaned of Stroudley four and six wheelers, the gas feed pipe normally comes up from the non-brake end and to the right of the gaslight tops, as seen in the Buxted derailment photo (photo 2). The Battersea carriage is slightly different, in that the pipe comes up from the ducket end, then runs along the roof on the opposite side of the gas fittings. The gas pipe is 0.6mm nickel silver rod. To secure the pipe to the roof, it is held in place by nine Kamasan B981 size 6 fishing hooks.

Roof detailing

As described in the ducket end detailing section, the gas feed pipe runs up the outside of the ducket end on the right-hand side of the right-hand panel (this pipe would normally be on the non-braked end). Just visible on the Battersea photo, the pipe appears to enter the (single) lamp top above the Guard's compartment (camera side). So I am assuming the pipe would continue along the roof on this same side, feeding the other three tops on the model. For the record, the same 0.6mm n/s rod was used, again matching the end vertical rod.

The four w/m bases and tops from the kit were cleaned up. Each position was carefully marked along the centre line of the roof then soldered in place (using low melt solder). 0.6mm holes were then drilled out in each top for the feed pipes to enter. Corresponding holes were drilled in the roof beside each base. Rods were bent at right angles, representing the feed pipes, and soldered on from the underside.

To secure the pipe running along the roof, small fishing hooks were used. A quick visit to my local fishing shop, armed with a short length 0.6mm rod, found the opening eyelets in a size 6 KAMASON B981 fishing hook were ideal. Not having a GA drawing of a Stroudley roof, I had a terrible time deciding on how many to use, and what spacing they should be. Visually they should be equally spaced as much as possible, but that was difficult to achieve. After several drawings, I settled on nine hooks. Three over the Guard's compartment spaced at 22mm each, and six at 20mm spacings in between the original compartments. Happy with these measurements and that everything would be visually acceptable, holes were drilled out where the hooks would eventually be positioned. If, after fitting it did not look right, the holes could easily be filled in with solder and made good again. All of the hooks had their sharp barbs snipped off. They were then slid onto a length of rodding and each one in turn was inserted into the predrilled holes. Although the rod was perfectly straight (a relief), I noticed straight away the rod sat a good millimetre too high and way

above the roof itself as daylight underneath it could clearly be seen. To me this did not look prototypical. On a scrap bit of brass, I elongated one of the original sized holes into a slot 2mm long. Straight away the eyelet sat much lower within it, but more importantly the rod almost touched the roof. Problem solved. All of the holes were then slotted in this way and each hook soldered in place from underneath. The pipe over the Guard's compartments had to be bent slightly in an “S” shape, making sure it lined up with the position of the vertical end pipe. When perfectly in-line with it, it was bent down at a right angle and cut short. The top of the vertical pipe was then also cut flush with the body end.

The chimney was copied from the one shown in Figure 17, of An Illustrated History of Southern Wagons Vol 2, showing an LB&SCR 10 & 12 ton goods brake van to Diagram 22 (SR Diagram 1568). Scaling up the drawing to 7mm gave the measurements as: overall height (from roof top) 9mm x 3mm (Eileens Emporium Ref:BRT3530D) in diameter. The flared base is 5mm in diameter x 1.5mm thick, for which a small C&L Doublesided Copperclad sleeper strip disc (7ZC101B) was used and turned accordingly to the correct angle and soldered on the bottom of the stack.

Internal brake gear

Looking at the large 7mm scale birds eye drawing in the instructions (fig.3), the internal brake wheel arrangement appears to resemble a ship’s wheel, with what looks like eight grab handles around its circumference. Behind the wheel, there are two bevelled gearwheels. One small one directly behind the wheel itself, and a slightly larger diameter one on top of a standard or pedestal. Not wanting a large void of nothingness within the Guard’s compartment, it would be nice to model this brake apparatus somehow. Having a GA of a Stroudley 6 wheel Full Brake (to Dia 46) it clearly shows the pedestal with a horizontal brake wheel on top, which was scanned and printed off to 7mm scale, then overlaid onto the side-on drawing (fig.2).

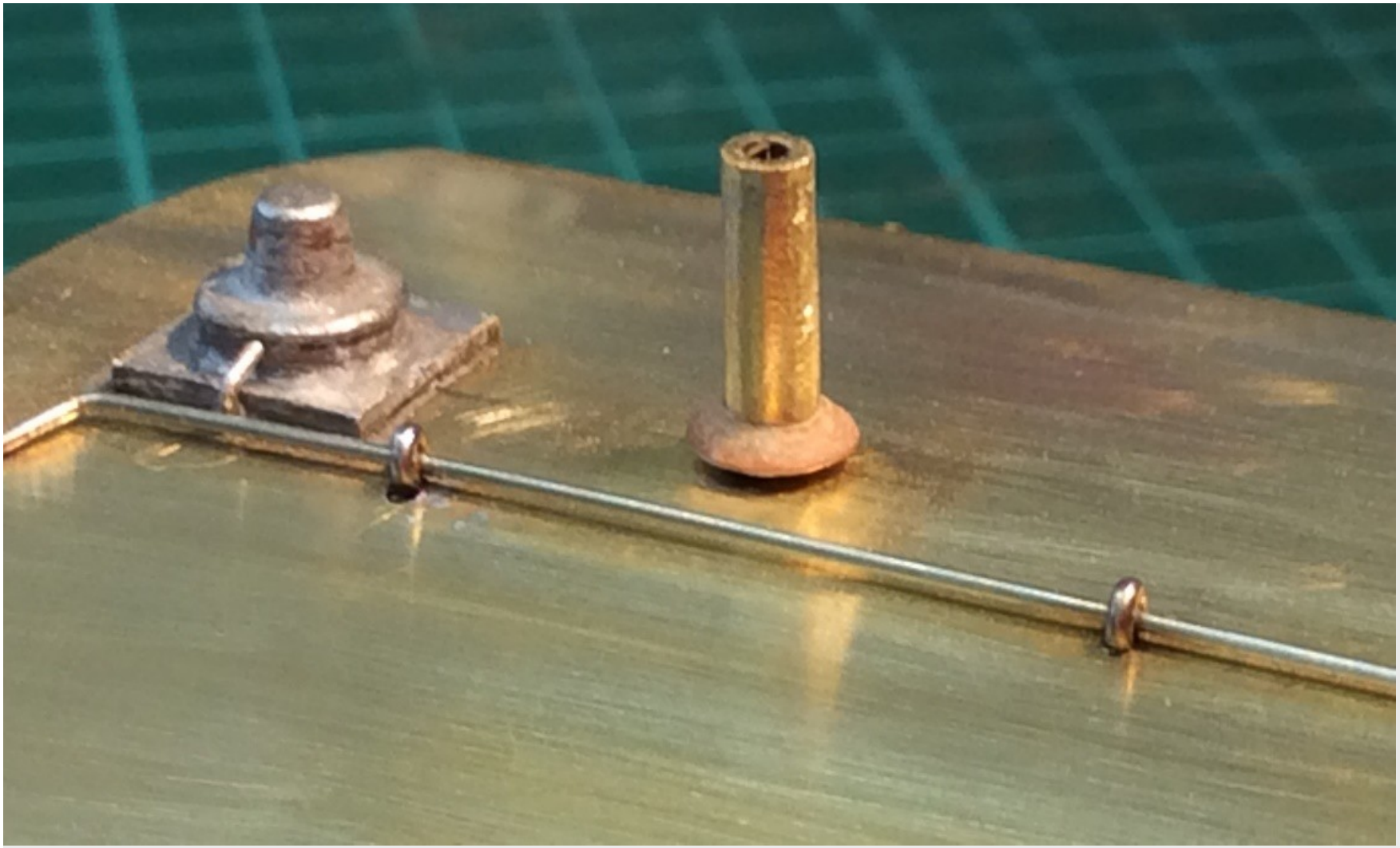


Photo 28

A close-up showing the gas pipe along the top of the roof. The view also gives a better view of the fishing hooks that secure the pipe in place. Each hole had to be slightly elongated so the eye of the hook sat lower down. Before painting, the small feed pipe that enters the round base will have a small blob of solder hiding the slight gap. Not knowing the precise height or diameter of the chimney stove pipe, I chose the ones fitted on the LB&SCR 4 wheel 10 &12 ton goods brake vans to Diagram 22 (SR.1568). 3mm diameter x 9mm high brass tube (KSM84) was used. A small 1.5mm x 5mm round tapered disc of copperclad was then soldered on, forming the base. It has been positioned (just for the photo) roughly where I think the stove will be within the Guard's compartment.

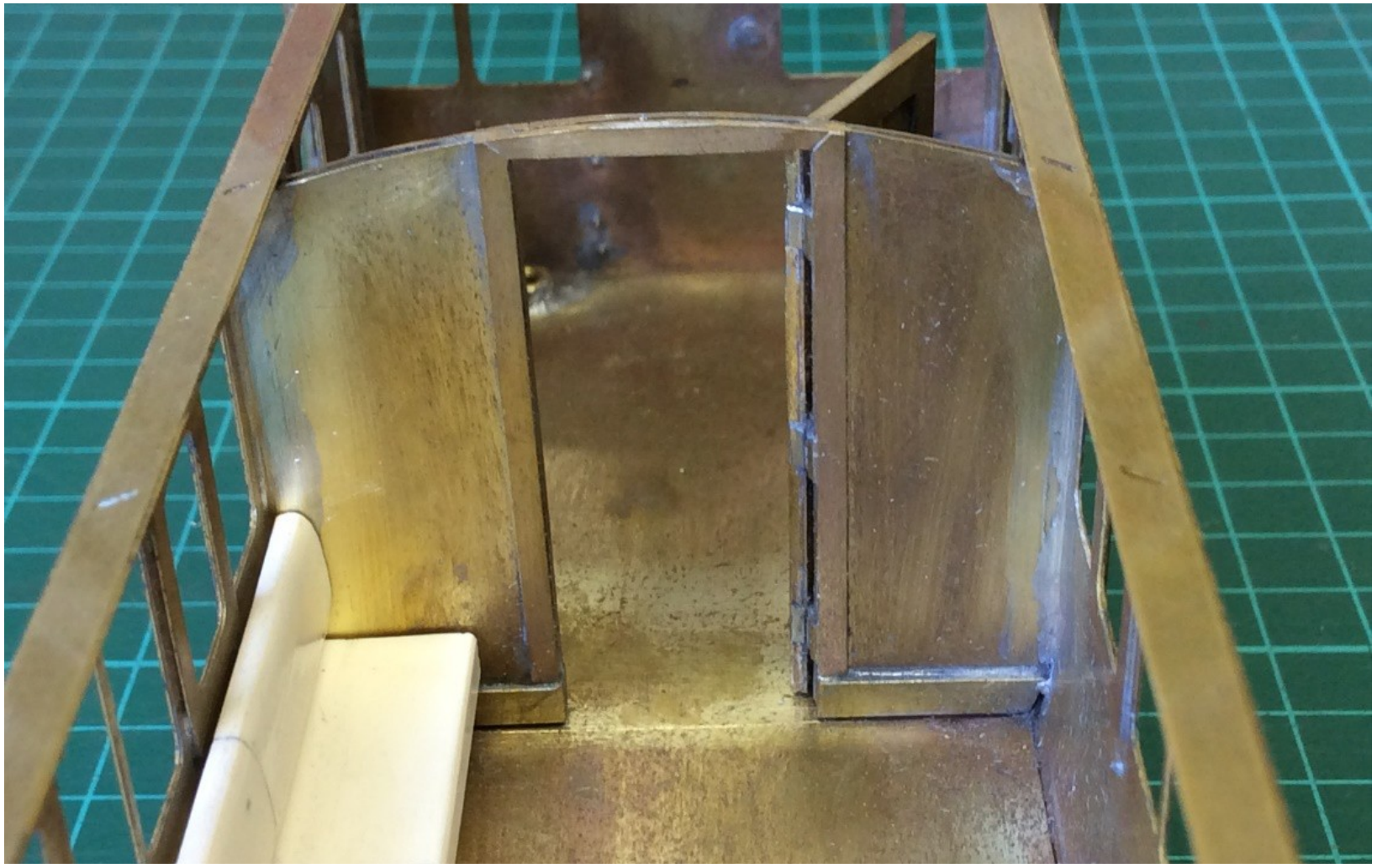


Photo 29

The internal door partition has been soldered in position. It is quite thick so I had trouble getting the solder to heat up and flow into the joints between the sides. As a result, I did not bother soldering the skirting board to the floor, as can be seen. Just visible are three dummy hinges that attach the door to the frame. The supplied plastic seating was used, but had to be cut down to just below the bottom of the window. It is held in position by a blob of Blu-tac.

Its principle dimensions are an overall height from base to top of casting of 2' 5” (17mm). Thinking this a little on the low side it was increased to 3' 0” (21mm). Diameter at the base 6½” (3mm). Base (or platform) diameter 1' 0” (7mm), tapering down to 5” (3mm) at the top.

Wheel dimensions: 1' 7” (11mm) in diameter. 2' 4” (16mm) over the handles. Overall thickness 2” (1.25mm).

Large bevelled gear wheel: 9” (5mm) in diameter.

Smaller bevelled gear wheel: 6” (3.5mm) in diameter.

Pedestal

The pedestal was made first. Not having a lathe, the only way I could achieve a tapered column was to solder various sized telescopic brass tubing together, then turned and filed it in a pillar drill. Not ideal, but it works. Also not having any metric brass tubing, the nearest equivalent imperial sized tubing was used. These ranged from 1/16” (KS125) tube for its centre, up to 3/16” (KS129) for the outer tube. The base was again made up of three separate tubes ranging from 7/32” (KS130) for the inner tube up to 9/32” (KS132) for the outer tube, which was soldered on separately.

Brake Wheel

7/16” (KS137) was used for the wheel itself. Cutting an oversized disc to 1.5mm wide, it looked very thin, so it was beefed up with an inner tube of 13/32” (KS136). After soldering together, both sides were filled smooth down to the required 1.25mm. Not knowing precisely how many internal spokes the wheel had, I plumped for eight. Having an even number made it much easier to mark off around the circumference (i.e.N, S, E, W, NNE, etc) for the drill holes. All holes were then drilled out to 0.8mm.

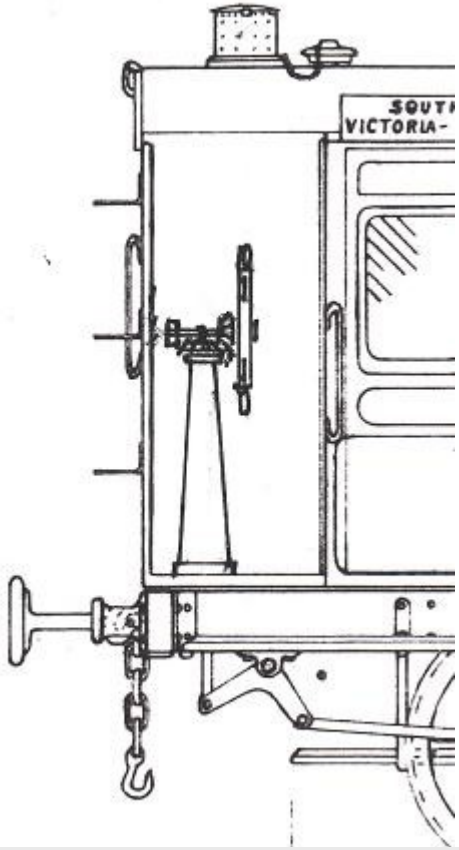
1/16" diameter tubing was chosen for the central spindle to which the spokes would eventually be soldered.

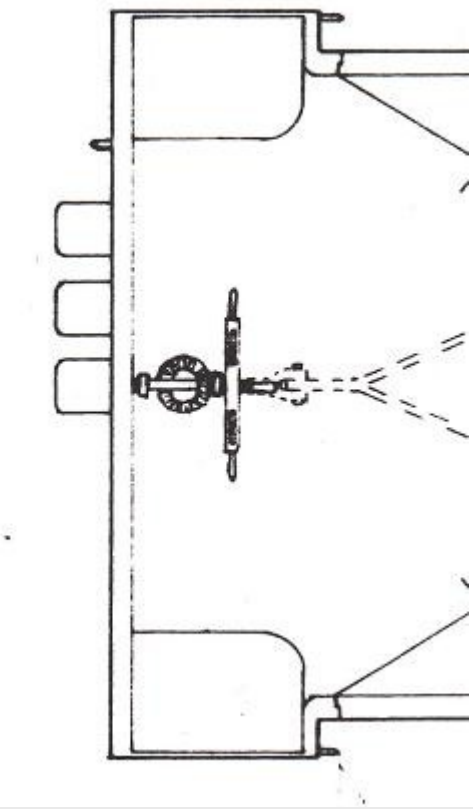
To hold the wheel, spokes, and spindle together, a simple wooden jig was made. All that was required was a 1/16" hole drilled out to secure the spindle in place.

A hole was drilled through the spindle end for the first (longest) rod to pass straight through it and the wheel. Placing the wheel and spindle in the jig, I very carefully lined everything up ready for soldering. The remaining six spokes were then soldered around the spindle using Carr`s Speedy solder. It was very tricky soldering them in place, worrying that one would move out of position as more spokes were added in turn. The wheel was then removed from the jig and cleaned up. I did notice one spoke was very slightly off parallel, but I left it alone. The over length handles were then trimmed back to 2mm in length and the ends rounded off.

Photo 30

The brake wheel was made first just to see what it looked like in 3D. Two rings were cut first from 7/16" and 13/32" round brass tubing soldered together. Eight equidistant holes were then drilled out around the edge for 0.8mm nickel silver rods to form the spokes. The first rod (9 - 3 on a clock face) passes straight through a 1/16" brass tube in the centre. Making sure the tube was dead in the centre of the wheel, it was soldered in position. The remaining rods were then soldered in place around the edge. Before soldering the whole wheel proper to the centre tube, I noticed the topmost spoke (12 o'clock) was not in-line with the bottom one (6 o'clock) which was subsequently straightened.





Figures 2 and 3, and photo 31

The brake pedestal was made up from various brass tubing ranging from 3/32" to 3/16" then cut to 21mm in length. It was then turned with a slight taper towards the top. A central 1/16" tube was then soldered in position, which protrudes down from the bottom and will eventually pass through a hole in the floor securing it in place. 7/32" and 9/32" brass rings were cut and soldered on for the base. The bevelled gears were shaped from double-sided copperclad, then cut to form teeth. They were encapsulated along with the shaft behind the wheel into a `U` shaped bracket, then soldered on top. A round brass tube was soldered on the end of the shaft representing a nut fixing.

Bevelled gearwheels

The tiny bevelled gearwheels took some time to sort out as I was not quite sure how to make them.

With each one being roughly 1.5mm think (on the drawing), I did not have any brass this thick. However C&L doublesided sleeper strip came to the rescue being 1.65mm thick. Also having a softish middle, sandwiching the outer brass shim layers, they could easily be filed. The larger one was made first. Thinking how to turn a blank gear perfectly round, I came up with the following solution. A short length of scrap strip was soldered directly onto the end of a 7/32" brass tube, near enough 5mm in diameter. The excess strip around the tube was snipped and cut away. It was then relatively easy to file off the waste around the tube. A small 0.8mm hole was then drilled in the centre of the blank disc. The disc was then filed all round at an angle of 45 degrees, turning the tube as I went. Very thin piercing saw blade cuts were then sawn on giving the impression of teeth. Unsoldering and cleaning up produced a perfect bevelled gear. The smaller one was then done in exactly the same way using 1/8" brass tube.

U shaped bracket

Although not shown on the bird's eye drawing, there must have been some sort of bracket (casting?) mounted directly on top of the pedestal holding the gearwheels. A 'U' shaped bracket looked the most likely candidate. Inside the bracket, the large bevelled gear would be held in place via a vertical spindle. The spindle would then pass through the pedestal, and would (on the real vehicle) carry on through the floor, linking it to the 'L' bracket underneath the floor, via a screw thread. The smaller bevelled gear would be secured in place by the spindle of the brake wheel. Several rough sketches were made to see if my idea seemed practical, which it did.

Again, it took some time coming up with an idea of how to make it. Bending flat brass strip into the required 'U' shape required several attempts. Bending it up was not a problem, but I had trouble getting the 5mm space for the bevelled gear to sit flat. Some were too tight, some too big. There was also the problem of ends being slightly twisted and off vertical. After several attempts I gave up. Having various square brass tubes in stock, the 5mm diameter wheel fitted within a 1/4" square tube (KS155). A section was cut to 3.5mm wide. The top flat was cut off leaving the uprights at a height of 4.5mm, which in turn were then rounded off. 0.8mm holes were then drilled in each upright (3.75mm up from the outside of the tube) for the spindle of the brake wheel to pass through, and another 0.8mm hole drilled in the flat of the bottom, for the bracket for the spindle of the gearwheel.

A length of 0.8mm n/s rod was then soldered though the top of the 1/16" tube leaving a few millimetres excess rod poking out the top. This was then passed through the bracket, then soldered in place directly on top of the pedestal. It was very tricky getting the bracket perfectly horizontal in all planes. The large gearwheel was low melt soldered in position. The excess rod was cut and filed off. The brake wheel was then passed through one end of the bracket capturing the small gearwheel. A small amount of filing had to be done for the wheels to mesh and the holes to line up. Once happy, the remaining items were very carefully soldered in position. After painting, the completed assembly will be soldered in place from underneath the floor.

Stove

Within the large Guard's compartment, a stove would have been fitted (as noted by the chimney on the roof just behind the single lamp top). Ian White was contacted to see if he could help, but unfortunately, he could not. He did give me a link though (thanks Ian) to the HMRS website, showing a drawing of a SE&CR one. In the end, I looked on the internet myself (typing in photographs of goods brake van stoves) where I found several. One was rectangular in shape,

whereas all of the others were cylindrical and tapered. All appeared to be cast in one piece. Not knowing any dimensions, several scale drawings were made. Again after several attempts, 3' 0” looked about right by roughly 1' 6” diameter at the base, tapering inward towards the top at roughly 1' 0”. Having some 13/32” (KS136) brass tubing which equated to 10mm, an oversized length was cut (25mm). To form the taper, a triangular segment was cut out. Sadly I cannot remember precisely what the measurements were. Off the top of my head I think the top end was 8mm wide tapering down to the bottom point. The tube was then annealed, softening up the brass. It took me quite a long time bending the tube inwards at the top to form the taper. I had to remove more of the brass to obtain the correct 1' 2” diameter top. To hold the tube securely in place ready for soldering, I twisted fuse wire around the top and bottom of the tube. The join was then simply soldered together. Any slight gaps in the brass from cutting were filled with solder. The fuse wire was then removed and the join cleaned up.

After the cylinder was formed, the angles of the top and bottom ends required filing horizontally in all planes. After filing off the excess brass, the overall height was now 3' 0”.

Before any external detailing was attempted on the stove itself, a base had to be produced. Working from the photos, several drawings were prepared and cardboard mock-ups made (not photographed). When happy with the final one, the base was cut out from scrap brass. A 4mm wide brass strip was then pre-bent around it (in one individual length) and soldered in place. Placing the stove in position, it began to look good. Securing (soldering) the two together was proving to be a problem. In my mind it would be much easier to bolt the two together via a bolt protruding out from the bottom of the stove proper. It would then pass through a hole in the base and another hole in the floor of the body. All would be secured by a single nut underneath the body floor.

Photo 32

The top disc was cut out first and positioned slightly down (2mm) from the top forming a recess for a tea caddy to stand on. The stove was then finished off by adding four thin concentric outer rings (one each around the top and bottom edges, and two mid positioned ones), a drop down coal flap with hinge detailing, and four bolt heads etc. A square (scrap brass) base with rounded off corners was cut and soldered in position. A hole was then drilled in the centre for the protruding bolt. Once the bolt was secured in place, the base was soldered to the bottom of the stove. Two small diameter locating pins were soldered onto the base that correspond with holes in the base for perfect alignment every time the items are fitted.

The stove proved to be a real headache, as I did not know what they looked like in Brighton days (and still don't). Knowing full well there were no drawings of them on any of my GAs, it was guess work. The design I came up with was sourced from various on-line photos of goods brake van interiors. The one chosen looked the most practical. It wasn't the easiest of items to fabricate and one I don't want to repeat again. I will definitely go down the 3D printed route next time having a couple of full brakes to construct. One item that hasn't been fitted on yet is a lever for the flap.

The chimney stack (or flue) as mentioned in the roof detailing section was estimated at 3mm in diameter, so the same diameter brass (Eileens Emporium Ref:BRT3530D) was used again. To form the curvature at the base of the chimney (which locates into the back of the stove), several piercing saw blade cuts were made through the tube. The tube was then annealed and bent approximately to a 45 degree angle. A brass rod was then soldered into the end of the tube (for extra strength), which locates in a hole in the back of the stove. The cut lines were flooded with solder, then filed smooth. The stack was soldered in place. With the stove in place, I accidentally knocked the top of it with my fingers and bent the stack at a horrible angle. Thinking it would happen again, I decided that it would require strengthening. A scrap bit of 5mm wide brass was pre-curved to the roof profile, then a 3.2mm diameter hole drilled in the centre for the chimney to pass through. It gives the chimney itself some rigidity. With the stove in place, the strip was soldered onto the underside of the roof proper.

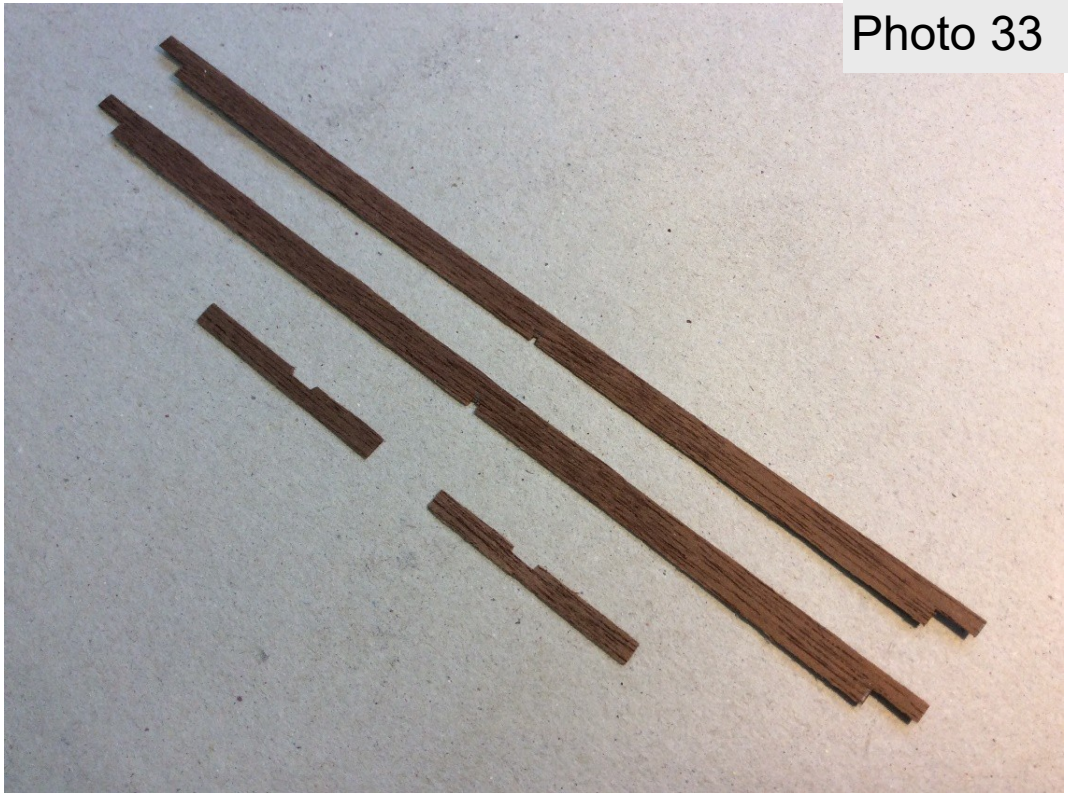


Photo 33

Footboard veneers

On previous models, including the tool van, thin 0.5mm thick wood veneer was used to thicken up the under-scale brass footboard thickness. Strips were cut out slightly over length and wide and sanded smooth. They were glued in position using Evo-stick contact adhesive and held in position with modified wooden cloths pegs (first I had to gain the permission from she who should be obeyed). After a day's drying, the excess areas were filed off smooth and made good.

Photo 34

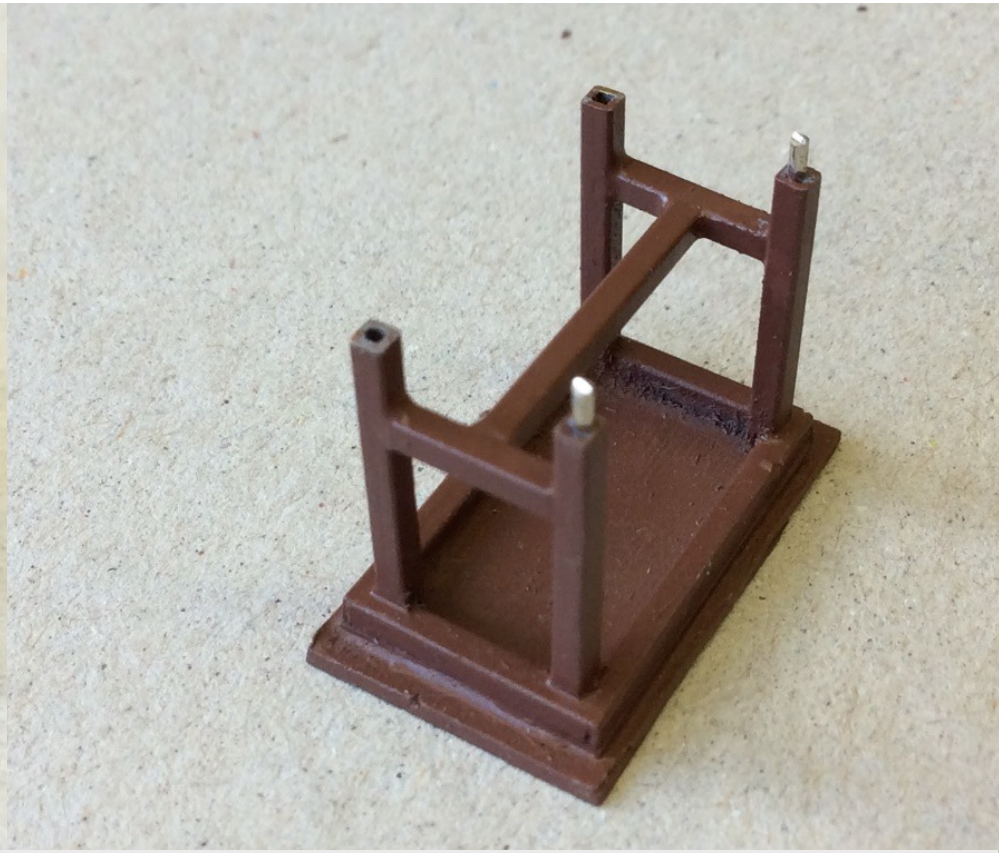
On previous 7mm kit-built models I have constructed, I find the appearance of some of the footboards slightly on the thin side. The thickness in this particular kit uses 18thou (0.45mm), which is not too thin but noticeable. Not liking the smooth appearance of painted brass either, I experimented many years ago using thin wood veneer to good effect. This model was no exception. The chosen dark mahogany coloured veneer I had in stock has a thickness of 0.5mm. By the time it had been sanded down removing some of the heavy graining, it now had a thickness of approximately 0.4mm. The overall thickness is a now a respectable 0.80mm which equates to a scale thickness of approximately 2”. The veneer was not easy to cut as it has a tendency to split down the grain ruining several strips. All notches were cut out as can be seen to fit in between the backs of the headstocks, axle boxes and gas pressure gauge pipes etc. The strips were cut slightly over-wide to protrude over the edge of each footboard, to be sanded down later. Each board was glued on, using Evo-stick contact adhesive, held in place by cut down clothes pegs.

Seating

The seating arrangement (Fig.1) utilised the plastic seating in the kit (when first constructed, these carriages would have had wooden seating with curved backs and no padding at all). From my prepared drawing, they measured 80mm and 54mm for the long seats, and 50mm for the end wall seat. When placed in position, the overall height of the mouldings was too high and showed through each of the window apertures. By pure luck, by cutting off the head rest areas, they sat just below. The longest seat requires two mouldings glued (Slaters Mek-Pac) together. After fully hardening, the glued line was smoothed off then cut to 80mm. The (cut) end was made good by filling in with scrap Plastikard. Each seat was then placed in position for a visual check. They looked fine, but the end seat (which still had the head rest on it) looked very odd compared to the other two, so it too had the rest cut off. After painting, they would eventually be glued in position using Evo-stick contact adhesive.

Tables

Two tables were scratch built. One for the Guard's compartment, the other in the saloon. They utilised a framework of 1/16" square brass section tubing (KS149) with a ply top. The measurements were not crucial, but the saloon table height must not foul the window apertures. Each leg had a small brass rod soldered in from the bottom that protruded out. Corresponding holes were drilled in the floor so that each (painted) table could be soldered in place on the underside of the underframe.



Photos 35 and 36

The Guard's and saloon compartment required two small tables to be built from scratch. Each one was made for its specific location. This is the design I came up with. There is nothing special about them, other than that they must not be any higher than the bottom of the window openings. The framework is 1/16th square brass tubing (KS149) with a 1/32nd plywood top. Not wanting to glue them straight onto the floor, I soldered in 0.8mm round brass rods that protrude down from the legs and locate into predrilled holes in the floor. They would eventually be soldered from underneath.

Photo 37

The lost wax vac pipe castings were included in the kit and exquisite. They are full of detail, including the valve lever as can be seen. There is one problem with them. I found they were too high when positioned on the end. The solution was to anneal the pipe very carefully, straighten it out slightly, then re-bend higher up, so the overall height is lower. To secure the pipe to the frame, I first drilled out a hole in a suitably sized square brass tube for the pipe to slide into. After the tube was cut to size, it was soldered directly behind the headstock. The pipe was then soldered in position with a high melt solder for strength. Set inwards from both buffer shanks, you may notice two small drilled out holes, which will used to secure the safety hooks in place.

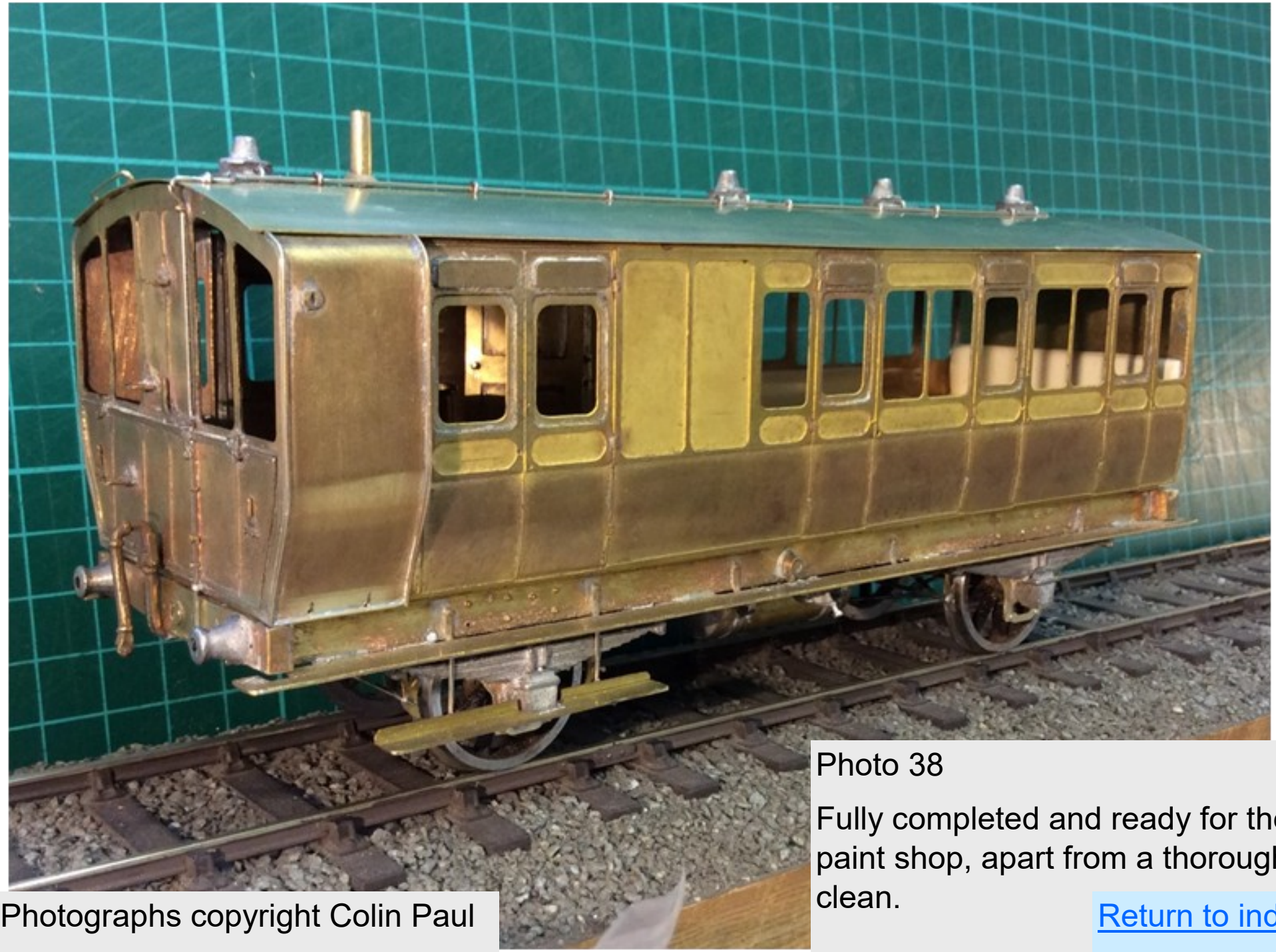


Photo 38

Fully completed and ready for the paint shop, apart from a thorough clean.

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I1x and I2 Class Tank Engines

by Gerry Bixley

The LBSCR had a family of 4-4-2 passenger tanks, classes I1, I2, I3 and I4.

The I3 became famous in 1909 when a through service from Brighton to the LNWR and North West England commenced. To the LNWR's amazement the LBSC sent a tank engine all the way from Brighton to Rugby where the LNWR Loco took over. I would like to have seen the faces of the LNW officials on seeing that arrive.

The I1s were in many ways similar to a class of 4-4-2 tanks on the Great Northern, where Mr Marsh of the LBSC had served previously. The I2s were a larger boilered version and the I4s were basically I2s with superheaters and larger cylinders. The I3s were very successful, the remainder less so.

My modelling in EM Gauge is centred on the single line Horsham to Guildford route and I have been able to produce most of the locos and stock used in my two chosen periods, 1935-6 and 1950-52.

Both the I1xs, to which the I1s had been rebuilt, and the I2s were known to have been used on the line in the 1930s, solely on passenger trains. Although the I1xs have been modelled by others, the I2s are extremely rarely modelled. I do not expect either type will ever be produced in kit form but the I3 is represented by a Wills (now South Eastern Finecast) kit. I built one years ago

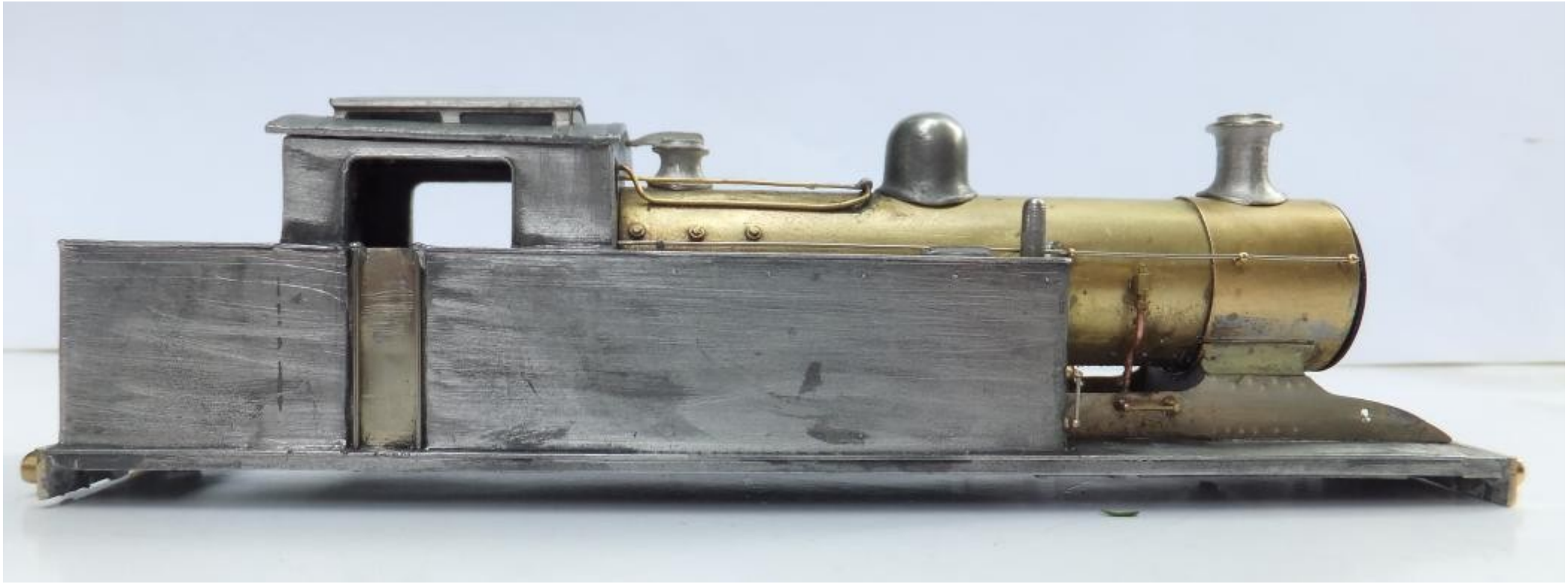
but had 2 more kits in stock for over 20 years. At the end of 2019, I researched the similarities between the I3s, I2s and I1xs, having produced scale drawings of the latter two; the I3 is fairly well represented in known drawings. In spite of the differences, I reasoned that many parts of the I3 kit could be usefully used for the others, since white metal can be cut, shaped and soldered quite easily. All the variations shared an 8’ 9” coupled wheelbase and a 6’ 3” bogie wheelbase, but the 6’ 7” driving wheels of the I3 were far larger than the 5’ 6” of the others. There were footplate differences but the I3 and I1x shared the same boiler. The tanks and bunkers of all variants were similar, but different lengths. The I1x had a more modern cab shape and the I3 was 4 inches wider than the others. I2s had a smaller boiler but many parts were similar to the kit - not the same of course - and were 6 inches narrower over the tanks and bunker.

I started the I1x first, basing it on two Weald models E4 footplates soldered together to produce the footplate. The width was correct and the buffer beams could be re-used, so I cut the I3 tanks and bunker off and re-assembled all the parts to the correct dimensions. The cab is completely different and new spectacle plates were required, these being constructed from 1 mm flat white metal from my spares box, the roof being fashioned to shape from nickel silver and soldered at the eaves to the white metal of the I3s. The bunker upper extension was made from a narrow piece of brass, bent to shape. New pipework was made from brass, nickel silver and copper and a representation of the frames which project above footplate level was made, nickel silver again, as well as a new smokebox saddle. A Maunsell type smokebox door completed the transformation. South Eastern Finecast produce an 8’ 9” wheelbase chassis which employs 6’ 7” wheels for the I3, so the axle holes were lowered by 2 mm. There are variations of wheelbase between the 4 basic I series tanks so for the I1X cuts were made 21mm ahead of the front axle centreline and 17mm behind the back axle to produce a separate mechanical unit with a Mashima motor. The rest of the chassis has yet to be fabricated but the body can now stand on its 4 driving wheels – and runs.

Part of the kit's frames have been adapted to form a pony track for the back end. The parts are provided for the front bogie, nicely etched in nickel silver but the central cross member of this is designed to be soldered across the top of the side frames. Not only is this a rather weak construction but it is difficult to make and get correctly set up. I used Gibson 2mm axle bearings rather than use the etched side frames as bearings, and I strengthened the whole assembly with a 1mm thick piece of nickel silver soldered underneath the cross member supplied. This gave useful weight to the bogie and made construction easier. The bogie will be pivoted on a long arm centred just ahead of the front driving axle with a little springing provided by a strip of phosphor bronze bearing on the top.

Before finishing the I1x I started on the I2. I reasoned that it's greater similarity to the I3 would make it an easier proposition – wrong!

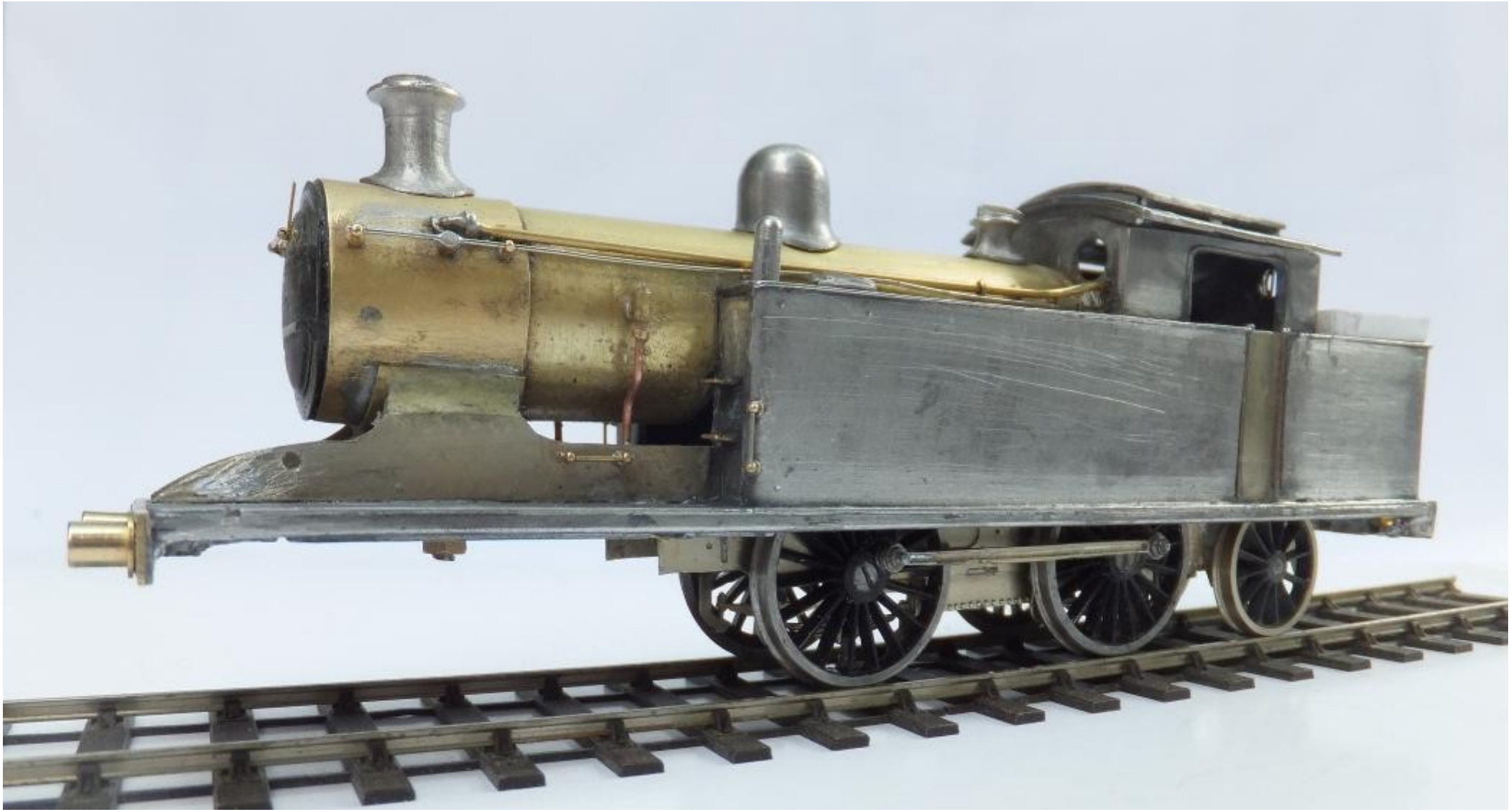
Although the tank height above the footplate was roughly the same for all the I tanks, the I3 had a higher footplate level. The I2 conversion involved cutting and re-assembling the tanks and bunker to the correct dimensions. The main section of the footplate could be re-used but had to be altered slightly front and rear and the whole loco needed to be reduced from 8' 10" wide to 8' 6" although the width over tanks should be 7' 10" compared to 8' 4". I compromised and settled for a footplate width of a scale 8' 6" or 34mm with tanks fractionally too wide. The cab luckily was the same dimensions as the I3 but set approx 3 inches higher than the top of the tanks which proved to be rather tricky to achieve. Although the tanks were shorter than the I3, the bunker was longer. The extra length of the bunker was provided by part of the section removed



from tanks when they were shortened - duly soldered in place. Luckily the tanks and bunker height was the same either side of the cab which had to be repositioned to suit the I2's dimensions. Having seen the last two I2s in 1950, I can say they were unquestionably the most elegant locos I had ever seen.

The front assembly of the tanks was reduced in width as was the back of the bunker to achieve the 4 inches narrower over footplate width. The resultant assembly formed the basis for the front frames, boiler and smokebox to be produced. The remainder of the model, particularly the boiler and smokebox and above footplate framing had to be fabricated. The I2s had smaller boilers, so the kit boiler was unusable. A piece of 19mm o/d brass tube was available in my spares box and this was cut so that it sat on top of the side tank tops which I had retained. A new smokebox was made from thin brass as the chosen prototype, SR No. 2013 had half thick cladding, so the smokebox needed to be larger than the boiler. A new smokebox saddle was made following the waisted style of 2013. The frames were made from nickel silver and were soldered to the footplate. This metal is very easy to solder and can be joined with the whitemetal using 145 or 188 solder and appropriate flux. New recessed cab doors had to be made since the originals were lost in the cut and shut activity when assembling the sides. The entrance grabrails were made from dressmaker's pins often drilling holes on the footplate with a touch of solder to secure the tops to the whitemetal. The alterations resulted in the footplate being some 5mm short at the front so a further search of the scrapbox revealed part of an early whitemetal bus kit which was fashioned to match the footplate. This was butt soldered up and then brass buffer beams were made from scratch, ensuring a slight lip on the top to represent the footplate overhang. Attaching the new brass buffer beams proved quite tricky and some very careful soldering was called for using small brackets of brass to enable a square result. I hadn't quite anticipated that one but the I3 buffer beams were not suitable. Pipework was added to the boiler and a new dome was made from a rather larger one I had in my spares, duly reduced and fixed in place. When about to make

the smokebox door, I removed the door from a Hornby SR E2 body (a spare), and realised that, with slight modification, it could be used for the I2. In real life the I2s and E2s had the same boilers, of course. The sculptured coal rails, albeit SR plated, have got to be made, but I have made a plastic pattern to work out the best way to do this in metal.



Boiler bands will be added after painting, but other detail such as lamp irons and steps, and under footplate features will be added after the chassis has been made, but as yet this has not been started but will follow a similar but not identical pattern to the I1x.

It may seem odd that quite large locos like these were used on light 2 and 3 coach passenger trains, but they were logged so doing and I hope to replicate this on my Rudgwick layout.

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A 7mm scale Dapol Terrier

By Colin Hayward

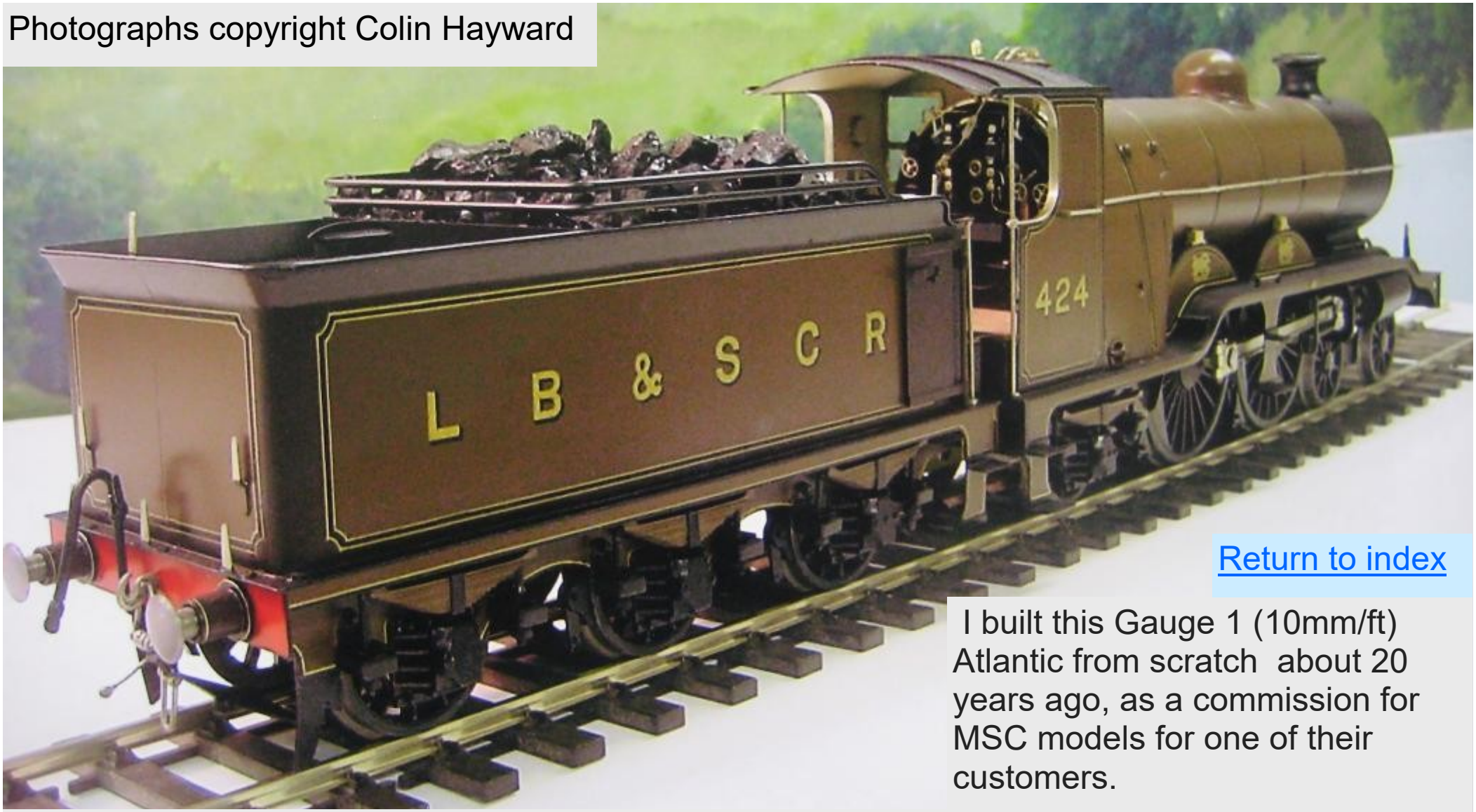
When the Dapol 7mm Terrier first appeared I purchased one. After a short test I proceeded to dismantle it as the body colour was so awful, and the component parts were soon sprayed in IEG. It hung around like that for a long time as various other jobs took precedence; (better not mention the North Eastern Railway!).

I chose the name Ewell as it was short, all the letters are straight lines and I had the number plates to hand. Recently I discovered that Ian was able to produce transfers for Stroudley loco names. This got the project moving again. I ordered a set of transfers and work then proceeded very quickly. The lining was done using Guilplates transfers. The transfer film on the name is slightly visible, but the finished result far outweighs my hand lettering.

Thus emboldened I have now obtained a plain black Dapol terrier which has been dismantled and will hopefully soon resurrect as 'Rotherhithe' thanks to another set of Ian's transfers.


60
EWELL

Photographs copyright Colin Hayward



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I built this Gauge 1 (10mm/ft) Atlantic from scratch about 20 years ago, as a commission for MSC models for one of their customers.

Wheels, buffers and couplings came from Walsall Models; motor is an MSC Crailcrest. Certain repetitive items like the tender springs were resin cast. Lettering and lining were hand drawn and Powsides made me an excellent set of splasher monograms from my artwork.

Like a lot of commission work I never saw the loco again. I wonder where it is now?

A 4mm scale Craven Train

By Gary Kemp

First by way of background, I have always been interested in local history, and having lived in Hailsham for a good number of years I embarked on making a model of Hailsham Station. It was originally set in the late 1950s/early 1960s, however it is now being built as 1912. Over the years of researching the layout, I have looked all the way back to the early days of the line, and what locos and stock were used throughout the line's history.

It was during this research I discovered a Craven saddle tank, numbered 27, originally an 0-4-0, but quickly rebuilt with an additional set of trailing wheels. It was built specifically for the line and, from what I can tell, it was the first loco built for the branch. Later in its life, it was rebuilt again as a well tank and renumbered 400.

The Loco

I spent a long time planning how I could make this model, until I discovered Javier, who was at the time making a model of number 400 for 3D printing. After some discussion with him, a model of the loco in its earlier condition as a saddle tank was produced

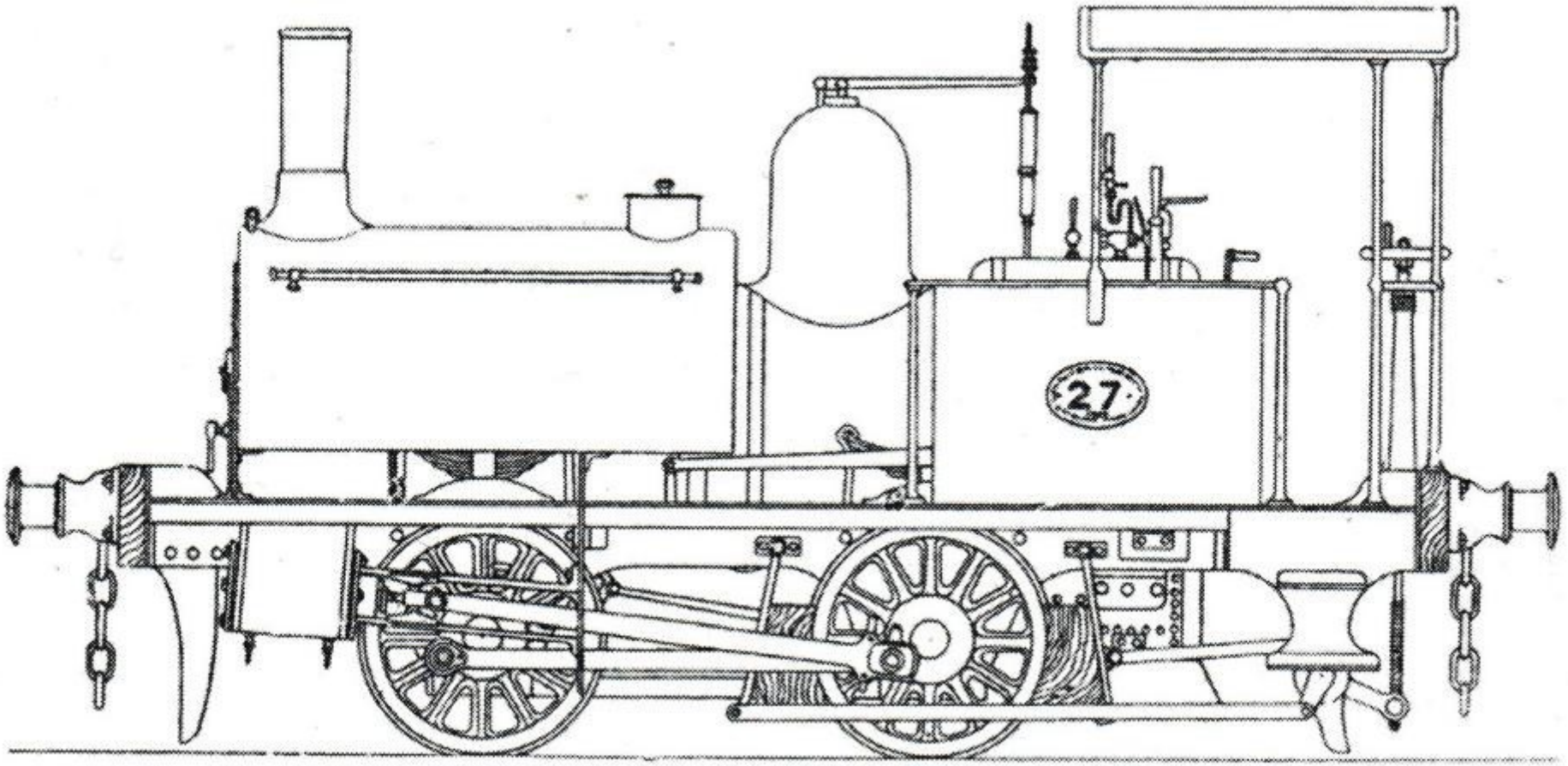

Fig. 101.

This model was produced to fit around a High Level motor and gearbox combination to ensure it could be a running loco on my layout once it was finished (A Slimliner+ with a 54:1 gear ratio and a 1015 motor). Combined with 13mm drivers and 10mm trailing wheels (from Scale Link), this gives the loco a rather realistic scale top speed of 34mph. Along with some rods, some wire to make handrails and slidebars, some handrail knobs, and some crossheads, this gave me everything to make the loco.

The loco was built over some time live on my YouTube channel, and has appeared on these pages before. Being a 3D print it was mostly a very straight forward build, and was an extremely enjoyable one at that!

Because it was the first loco built for “my” station, combined with the fact it was the first build of Javier’s model, I wanted to make it something special, both for my own sake, and so that Javier could use pictures of it for advertising his 3D printing. So as the build was coming to an end, I jumped into Southern Style Volume 2 to see what I could reasonably get away with for Craven livery, and I decided to go with white-black-white lining and a cast numberplate. These may be unlikely for such an engine at that date, but there’s no evidence it didn’t carry them. I am very happy with how it has come out, although I am hoping to replace the numberplate with an etched one in the future The existing one is printed on card.

With the loco complete and looking smart, I wanted to pair it with a train that would be as accurate as possible. I already had an old Woodham Wagon Works kit for a type 20A full brake, so it was inevitable this would get used, and conveniently LBSCR Carriages Volume 1 has a picture on page 111 of a train at Hailsham station sometime around 1870, which is identified as having a type 9B, 13A (possibly could be a type 2 carriage), and 9C (possibly could be an 8F). This gave me a Third, Second, and First to go with my full brake.

Type 20A Full Brake

The first carriage to get built was the Type 20A full brake. This was whitemetal with the sides from the Woodham Wagon Works kit (now available from 5&9 Models). The guards lookout was not included in this kit, and I scratch built this from plasticard, and formed the roof from plasticard, all done live on my YouTube channel.

Type 13A First

The easiest carriage to build, although not 100% accurate was the type 13A, which was made from a Tri-ang rocket carriage, with a new roof, and some other details added. I painted this as per Chris Cox's model of a type 1A first coupé on his website, I chose to go with this livery asI wanted the most grandiose train possible with the vehicles listed above.

Type 9 carriages

The final carriages to make were the 2 type 9 carriages, the 9B third and 9C brake second. These were scratch built, the 9B having been done some time ago, but the 9C was again built live on my YouTube Channel. The sides and ends of these were done from plasticard, based on drawings from LB&SCR Carriages Volume 1, and were mounted on cut down Hornby 4 wheel chassis, and painted in colours based on descriptions in Southern Style Volume 2.

This finally gave me a full Craven train, that could be considered accurate for Hailsham in the late 1860s/early 1870s, nearly 100 years before I had originally planned on setting the layout!

Although I have no plans on backdating the layout further, I do think this train will make a nice occasional interloper outside it's true time period.

Links

My YouTube Channel: https://www.youtube.com/oakhillmodelrailway

Javier's Shapeways Shop: https://www.shapeways.com/shops/caliper-s-paradise-models

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Lewes in P4 - part 1

By Rod Cameron

It's no secret to the members of P4 groups in Kent and Devon that I have long held an ambition to build a model of Lewes, as part – maybe the pivotal part – of an ex-LBSC Sussex empire including the Balcombe/Ouse Viaduct and Eridge layouts.

Why Lewes? It's a complex but relatively compact (by my standards!) station on the Central Section of the Southern Region, with third rail electrification. There are two double junctions, with the station itself set in the 'Y' of one of them, and four routes: to Brighton and London at the west end, and to Newhaven/Eastbourne and the unelectrified Oxted lines at the east end. Helped by its location and origin, there are a huge number of published photographs, many including the forest of semaphores; and the 1889 station building, Grade 2 listed in 1996, is essentially intact. As a bonus, Network Rail's archive service https://nr.printstoreonline.com/, which mainly provides architectural prints for decorating office reception areas, includes a scale plan of the overall roof and footprints of the buildings below, and elevations of one of the island platform buildings. Together with some other elevations I found on the internet as part of someone's architectural course project, and extracts from a station plan provided by Glen Woods, you can virtually derive the whole station buildings complex; and anything else can be photographed and measured on a future visit.

Figure 1 Contemporary view of station from the east, with Southern Electrostar unit in the London-bound platform. Brighton is to the left. The double-faced road was filled in some years ago.

Figure 2 Under the overall roof. The lovely decorated yellow brick buildings and the access ramp from road level (there are staircases as well) are very characteristic.

I probably started planning around 20 years ago, but serious work started about 10 years ago when John Farmer and I were starting *Balcombe*. I began with a 6-inch OS map and Templot, and soon had a workable plan, which I was able to print on A2 sheets using the office facilities I had access to at the time.

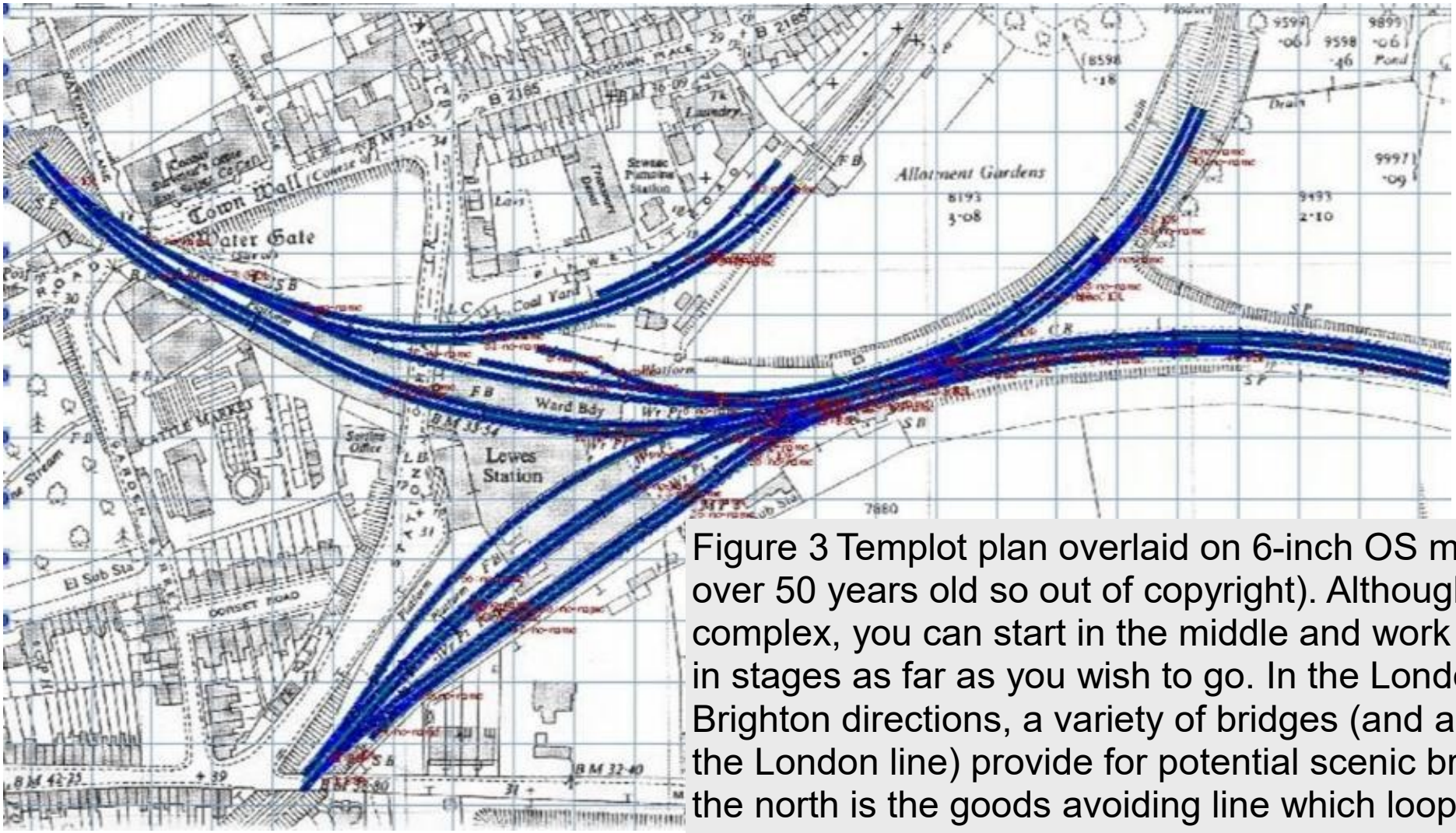


Figure 3 Templot plan overlaid on 6-inch OS map (well over 50 years old so out of copyright). Although it's quite complex, you can start in the middle and work outwards in stages as far as you wish to go. In the London and Brighton directions, a variety of bridges (and a tunnel on the London line) provide for potential scenic breaks. To the north is the goods avoiding line which loops round and rejoins the Newhaven line to the south east; on the map you can see it following part of the old pre-1889 route alignment at Lewes.

Baseboards have been designed and built around 1200mm x 500mm Knauf insulation boards. I laid in a stock of these pink foam boards a few years ago when you could easily buy them when there was a Government energy efficiency subsidy scheme going on. The boards for Balcombe also used these (apart from the viaduct itself of course). I eventually came up with a plan using six of these boards, shaped as required, with 6mm ply and 3mm cork track beds, faced with 4mm ply sides. Extra stability is provided by panels of 6mm or 4mm ply on the undersides, to which can be attached bus wires, tag strips etc. Ply is glued to the foam using Gripfill (the yellow solvent-free one), strengthened by screws – you can do this with the foam as long as you drive the screws slowly and stop as soon as it ‘grabs’.

Figure 4 Baseboards laid out on the deck, looking west towards the station; Brighton to the far left, London to the right.

The board distribution means that all the main junction pointwork is situated on the two central boards. Points will probably be operated manually with wire-in-tube, but these will not need to change crossing polarities – for this I am using ‘Frog Juicers’ which do this automatically via clever electronics. A friend has nobly volunteered to build the semaphore signals for me, with mode of operation yet to be determined. The Signal Record Society has all the diagrams for the Lewes boxes.

For tracklaying I’m going old-school, using steel rail, thin ply sleepers and rivets every so often, with glued Exactoscale/C&L chairs. The Templot plans were glued to the trackbed for working directly on the boards.

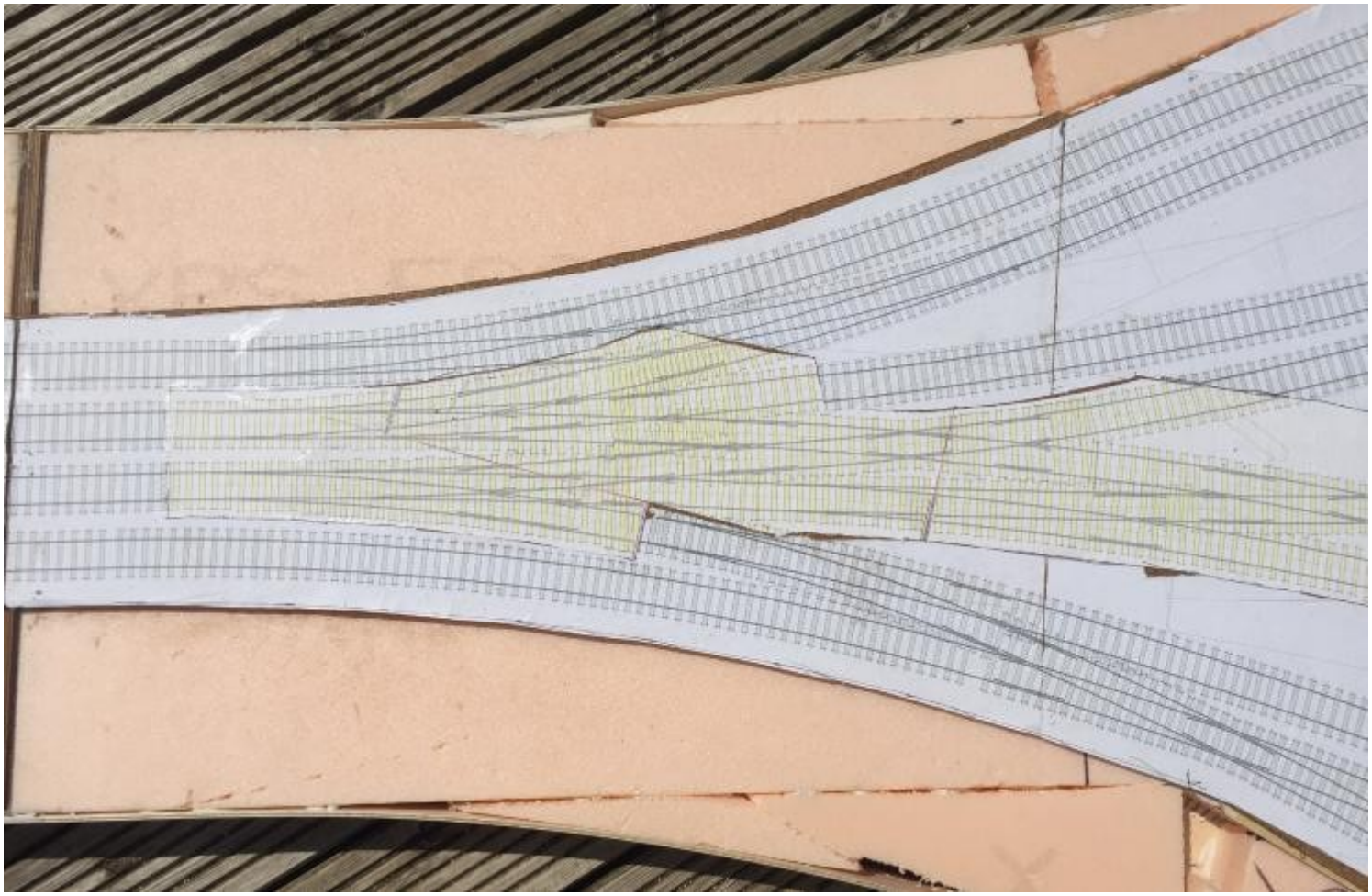


Figure 5 When I originally printed out the Templot plan the facility to do diamonds and tandems was not available (shows how long ago it was!), so I spliced in the updated parts of the plan incorporating these. There are some minor misalignments which I can deal with during the build.

Figure 6 Scaled copy of the Network Rail roof plan positioned in the ‘Y’ of the station. This will be on a separate drop-in piece supported by ledges on the London and Brighton boards. The Brighton tracks (at least the double-faced one) will need to be slewed slightly to the left to match the roof plan – OS maps are good, and often all we have, but you can’t expect them to be completely accurate.

To save time I purchased, many years ago, 11 P4Track Company point kits to cover the two main junctions. Templot suggested that most of the turnouts were B8s with a few C10s. All the points are curved to some degree, but anyway, since I was using ply-and-rivet I could dispense with the plastic track bases (probably the cheapest component of the kits). I started with the country junction, a relatively straightforward task so that I could get my hand in before embarking on the tandems on the station junction.

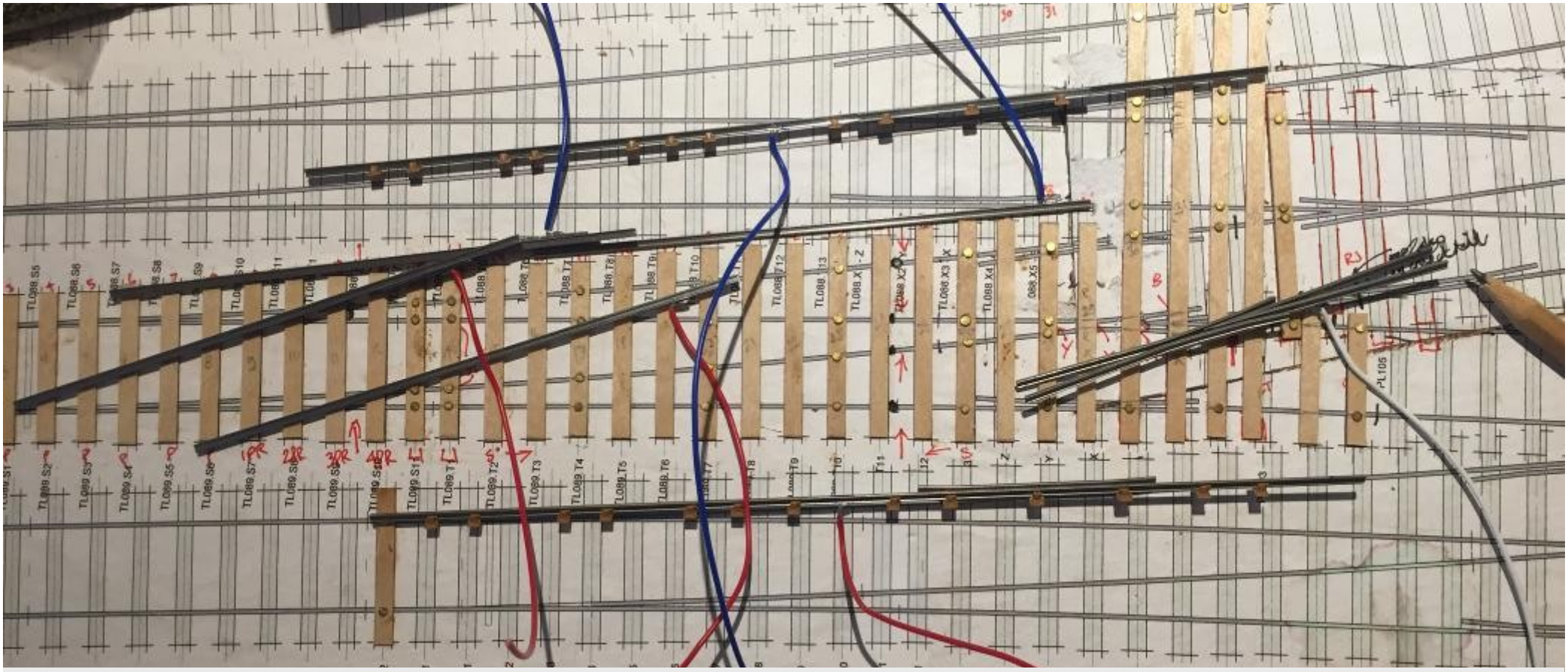


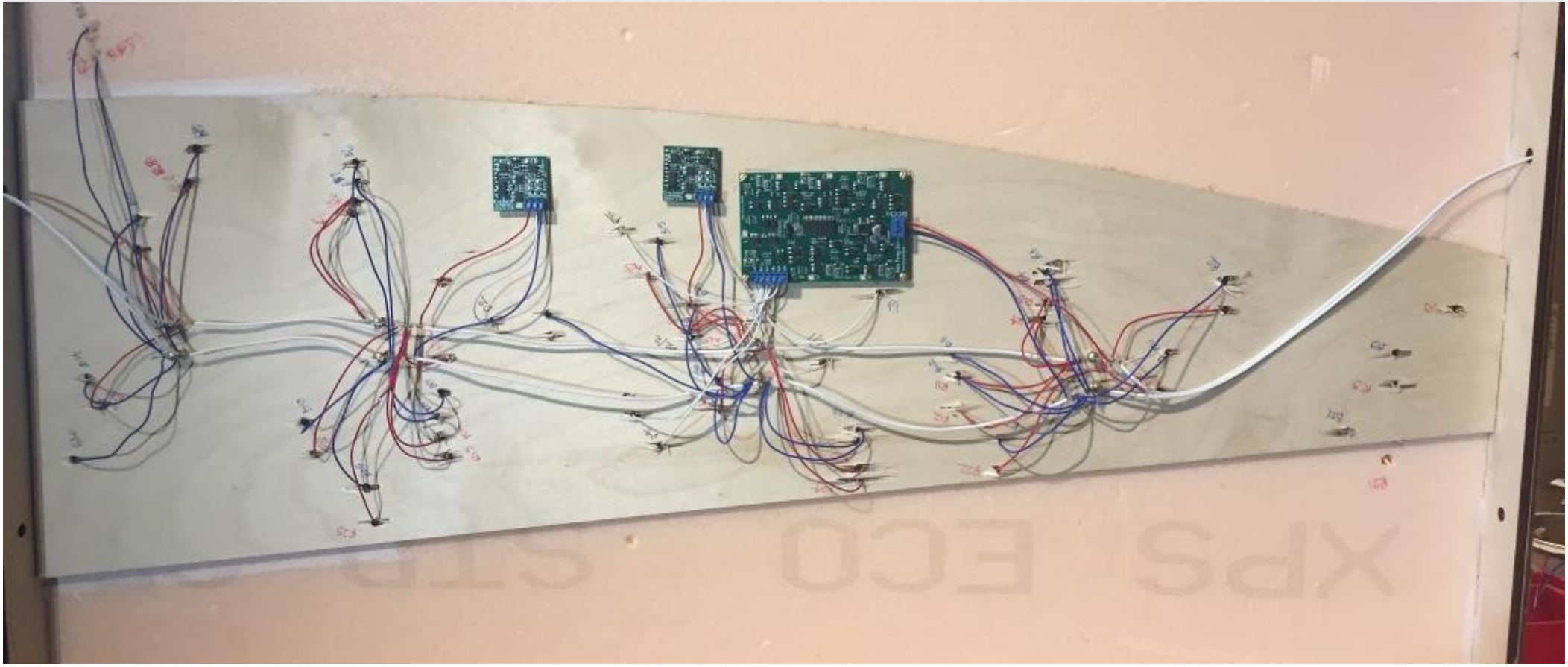
Figure 7 Rivetted timbers down for the first turnout, and P4 Track Company rail components prepared. Note that check rails are already in place against the stock rails, given that the kits include the check chairs. Dropper wires have already been soldered to the underside of the rail.

Figure 8 Stock rail and crossing fitted. Conventional gauges are fine for construction, but there's nothing like a mint gauge for that 'smoothness' check! Plastic chairs are not yet glued, in fact I won't be gluing any of them until I have had a proper operational test, just in case I need to make any slight adjustments in alignment.

Figure 9 Progressing with the diamond. At least two flangeway gauges are desirable for getting the obtuse crossings right! Both roads are curved, so the common crossings are quite different – 1:8 at one end, and 1:3.4 at the other. The 1:8 is a C&L complete crossing, one of several purchased for such purposes. The big holes for the droppers weren't planned, it's just that I needed a drill bit long enough to clear two layers of ply, cork and pink foam, and the shortest available was 6mm diameter.

Figure 10 The completed ‘country junction’ with some plain line added, including across to the next board for the station junction.

Figure 11 Underside wired up. The DCC bus wires (speaker cable) are just soldered to brass screws with enough bare wire to solder the droppers in the vicinity to them. Other boards I will probably use self-adhesive copper tape instead, from DCC Supplies or RS Components. The small electronics units are single ‘frog juicers’, and the large one handles six crossings. These are from Tam Valley Depot in the US, available from several UK DCC suppliers. It all worked perfectly on a powered loco test – see for example https://www.youtube.com/watch?v=8diz32Pw0ck .



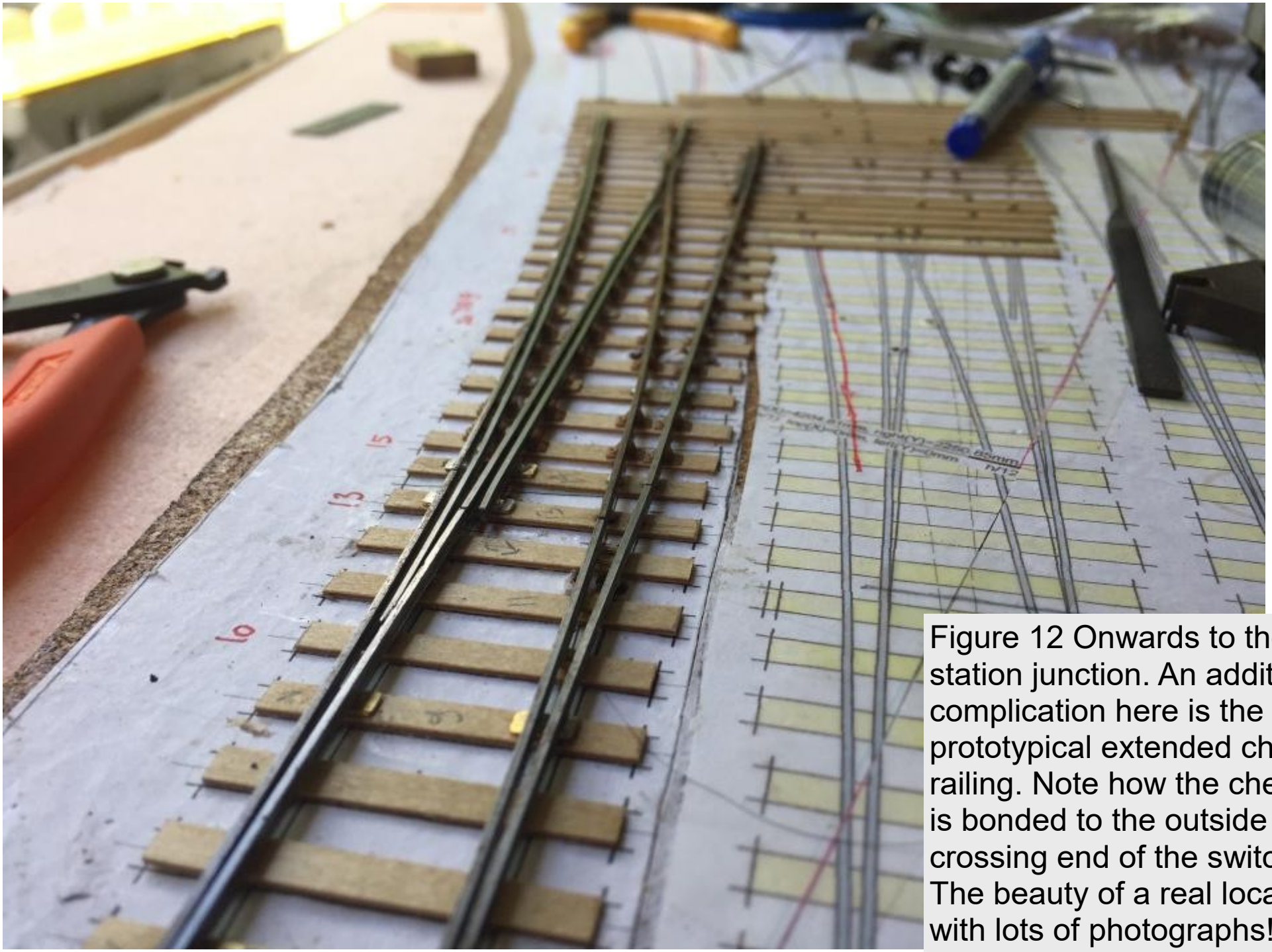
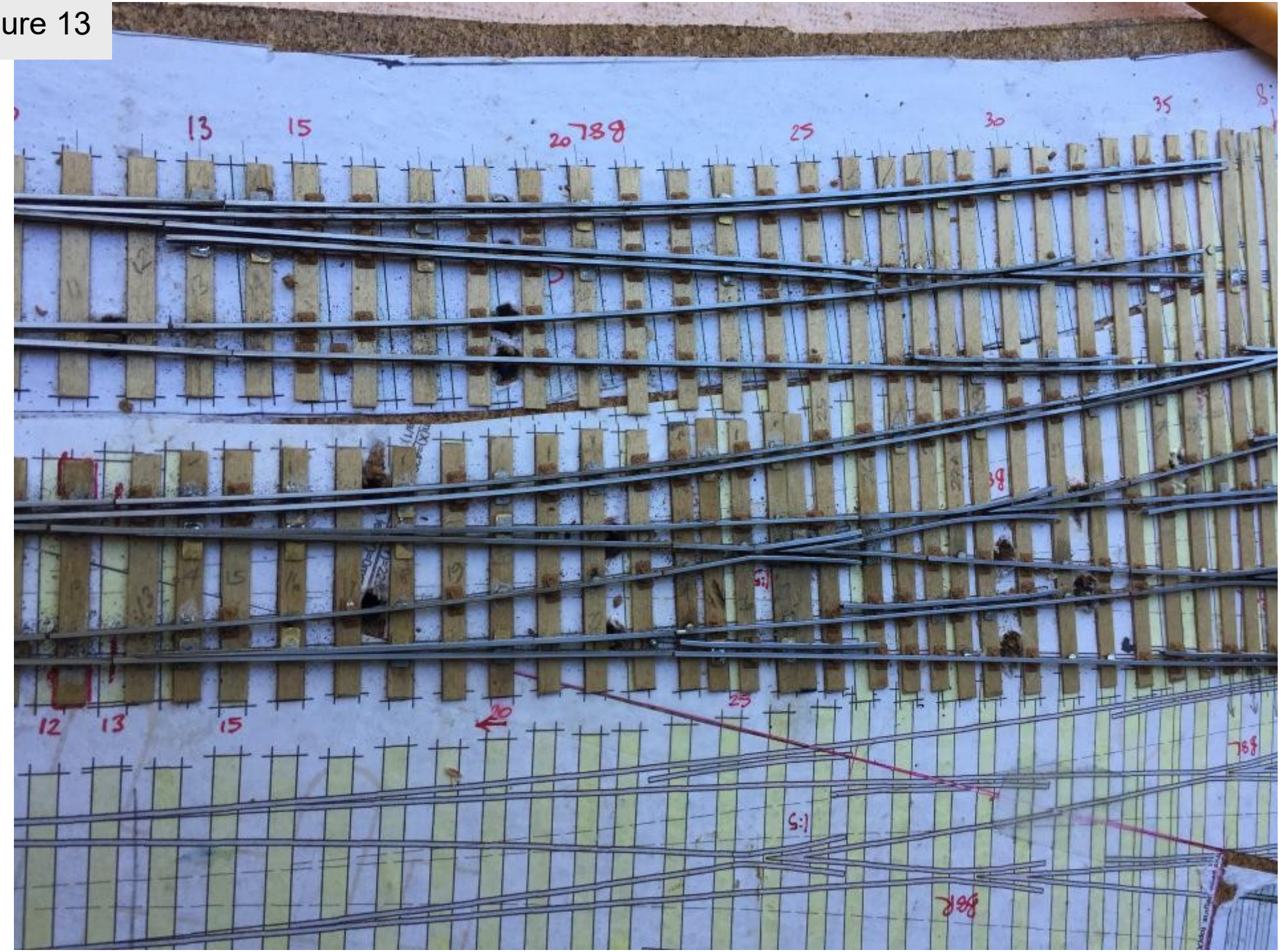


Figure 12 Onwards to the station junction. An additional complication here is the prototypical extended check railing. Note how the check rail is bonded to the outside of the crossing end of the switch rail. The beauty of a real location with lots of photographs!

Figure 13



Figures 13 (on previous page) and 14

The first tandem was fairly straightforward (like the diamond, I hadn't built one before). The rail components from B8L and B8R kits were used, shortened as required, and the central crossing is a C&L 1:5. At this point the slight misalignments from the splicing in of the Templot tandems and diamonds caught up with me, and the second tandem was not going to work as it was. Templot is great, but at this stage, with on-board construction in process, and platforms to line up, it was a case of joining on the next board and using lengths of rail, Blu-tak and the Mk1 eyeball to get it all looking right. I got there in the end after shunting crossings a couple of timbers and changing the B8L to a B7. The central crossing ended up as a 1:6.

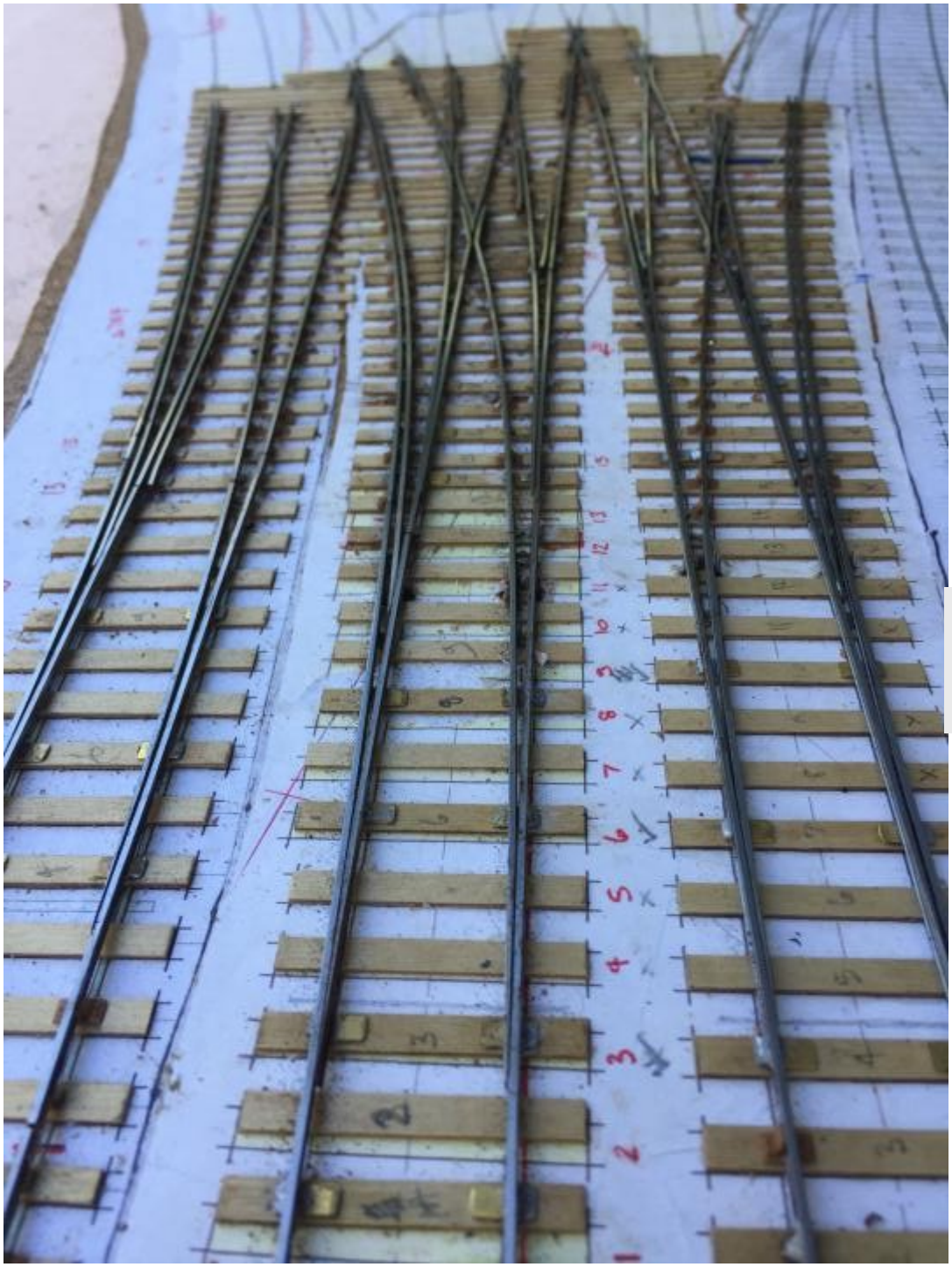


Figure 15 Second tandem added, also check railed on the right hand route.

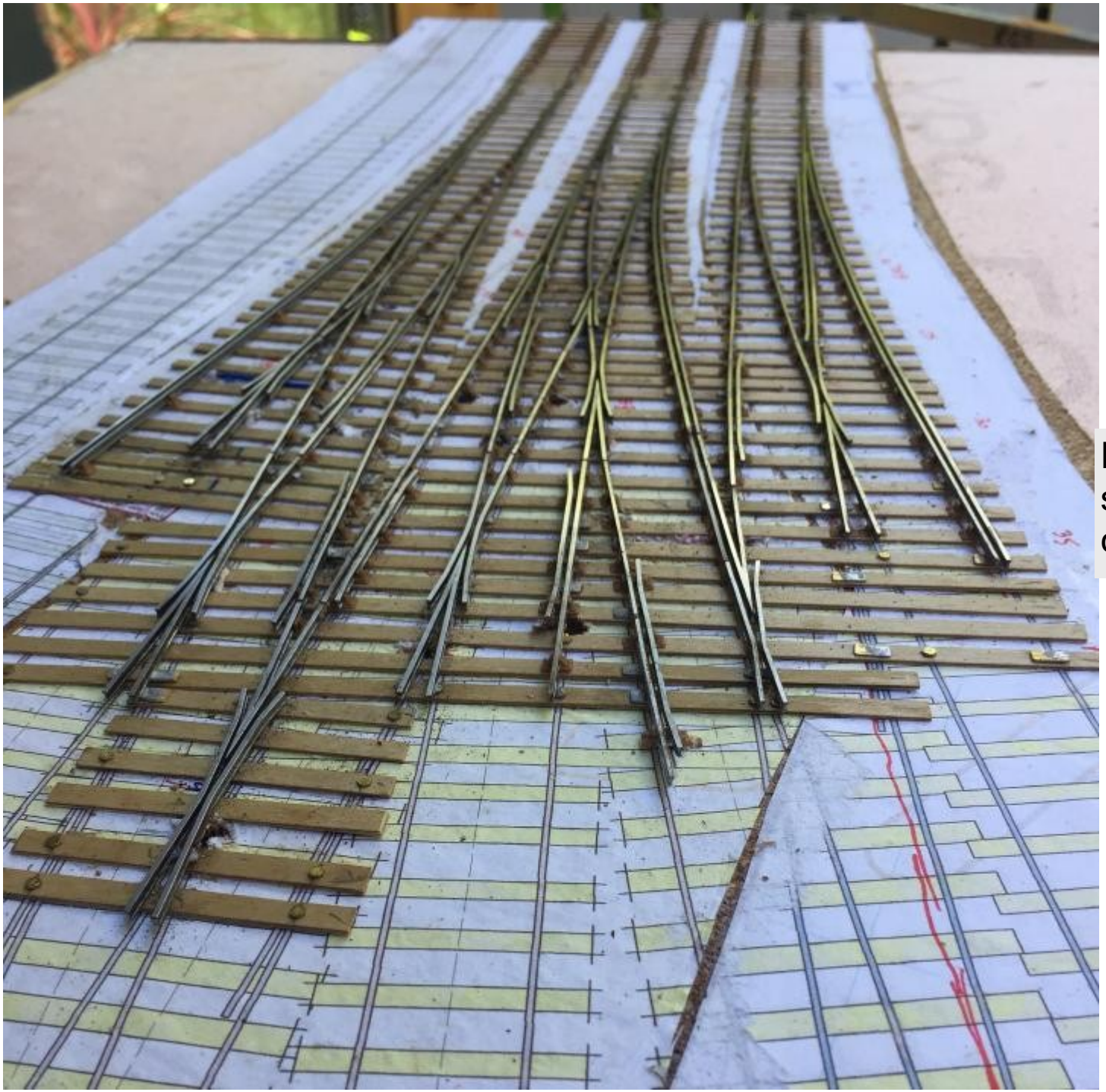


Figure 16 View from the station platforms towards the country junction.

Figure 17 A bit foreshortened by the camera, but here's the two double junctions joined together. At the time of writing the two diamonds still need doing.

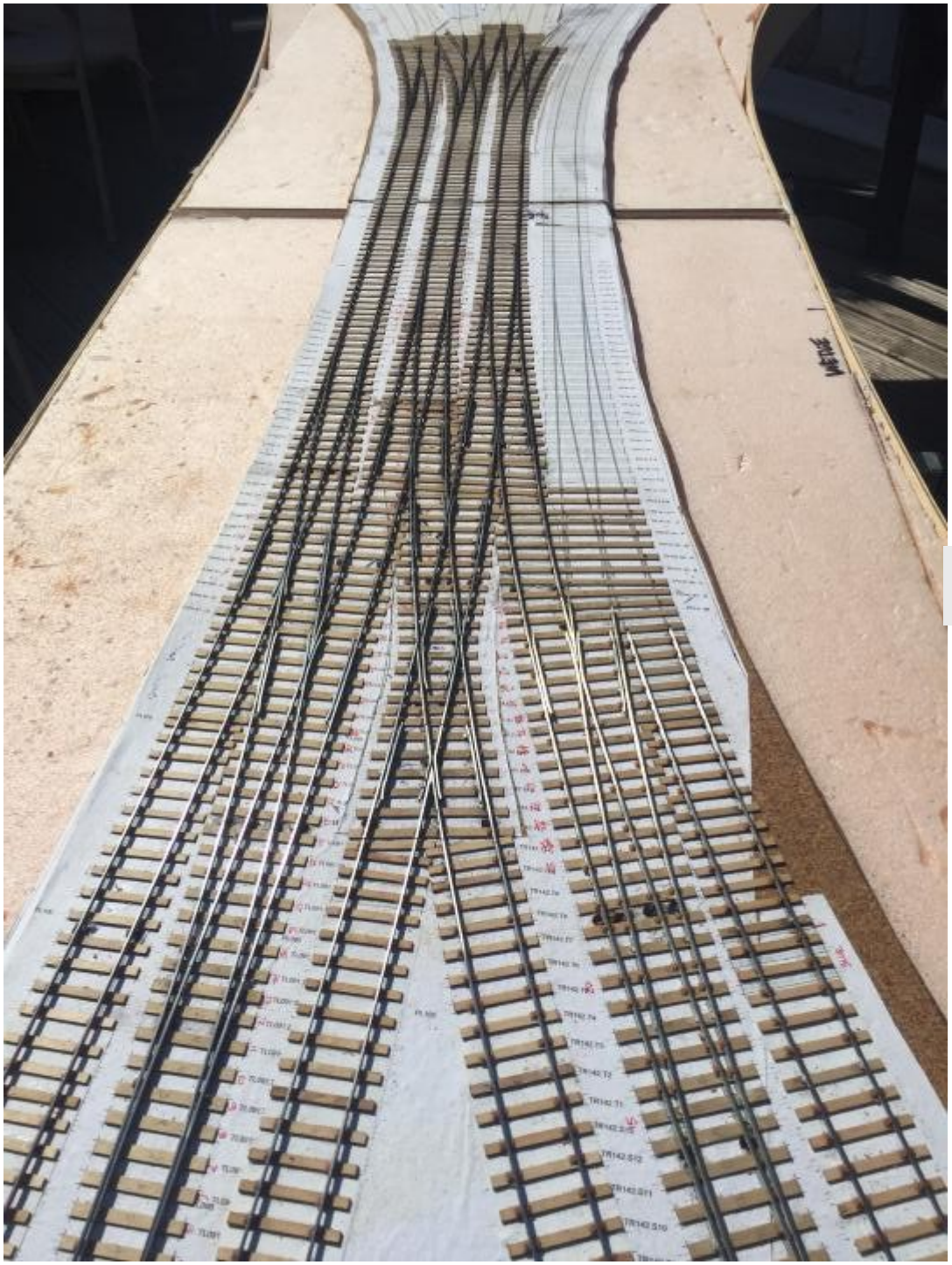


Figure 18 View from the country end.

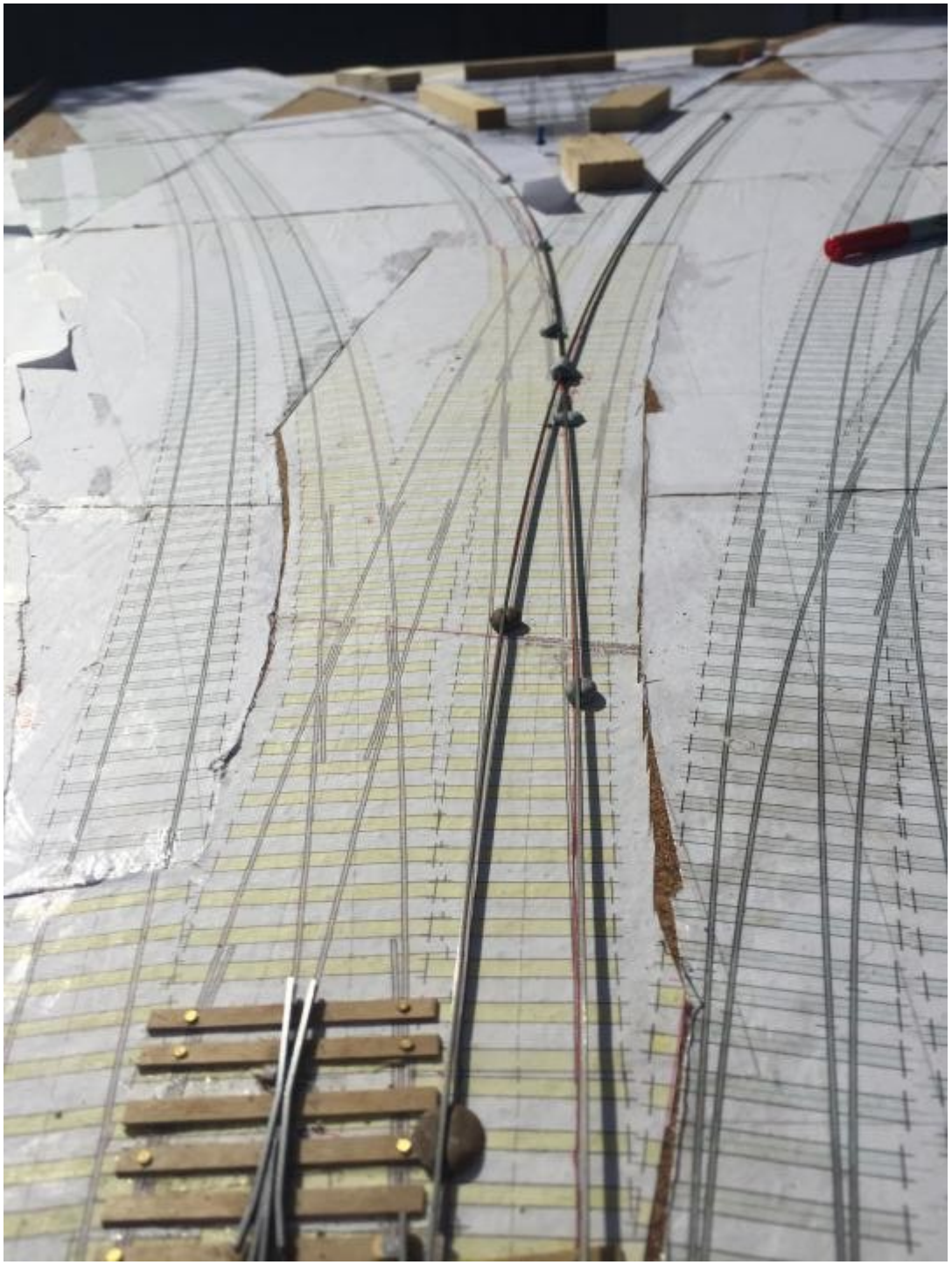


Figure 19 Some alignment adjustments into the station – there's no substitute for rail and Blu-tack!

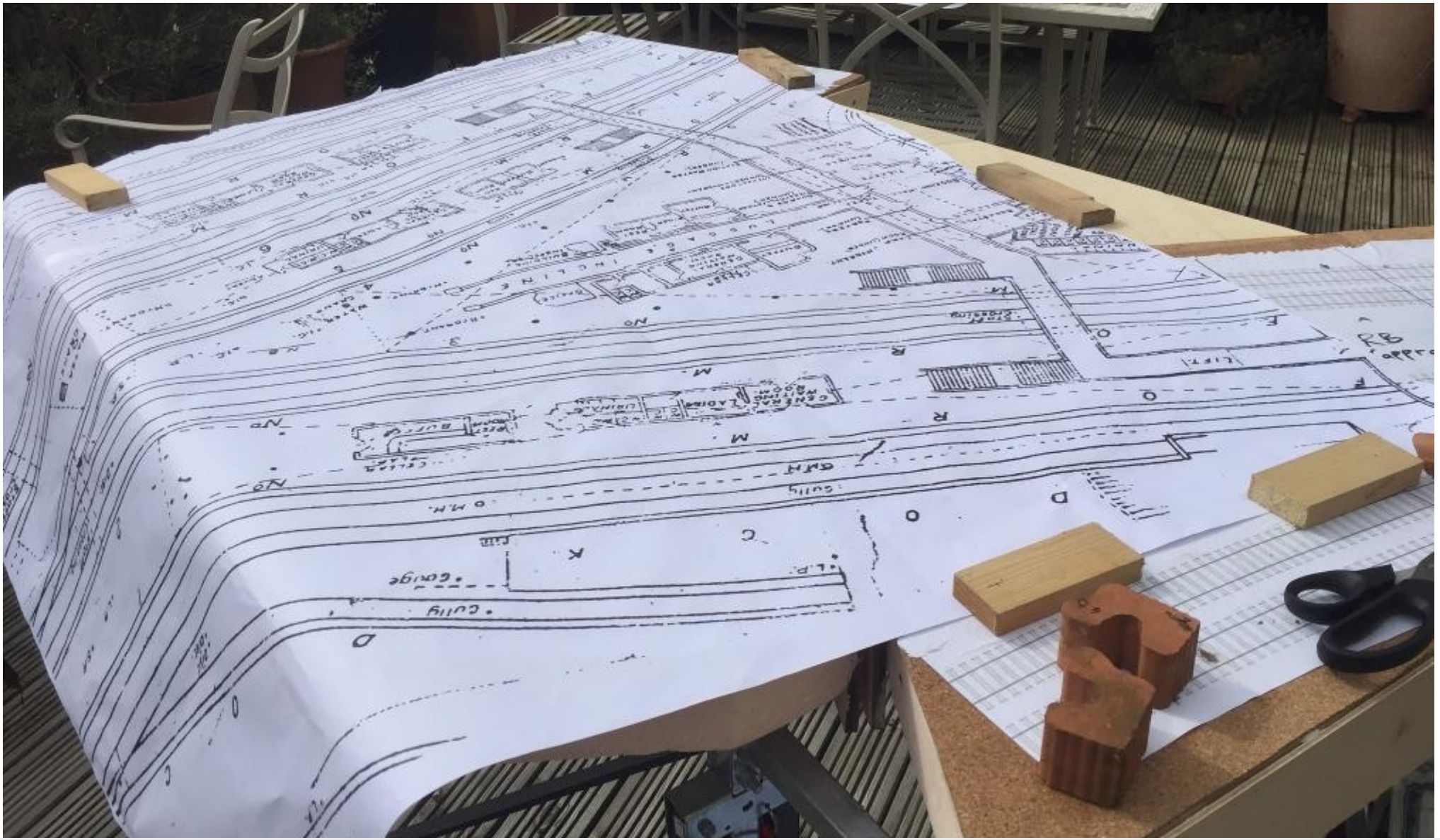


Figure 20 In September I acquired some extracts from a 1950 station plan, very kindly provided by Glen Woods, who very sadly died recently. These include a wealth of information on platforms, footbridges and buildings, signal and crossing positions etc. I've had the station area bit photo-enlarged (about x4.5) to get it to 4mm scale.

Figure 21 Atlantic and Maunsell 3-set come off the Oxted lines on route to Brighton.

To be continued.

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A Brighton Train Simulation

By John Whelan

Model railways have always had their limitations. Typically the size of the layout so you're pretty well limited to a single station in OO and in N gauge the greater enemy is dust and track cleaning. You are restricted to what is available commercially, especially track, unless you have model building skills and it takes time to scratch build a wagon or loco.

There are differences between physical modelling and SIM modelling. Animations are possible on the SIM so using horses to shunt wagons can be done which is more difficult in physical modelling. Physical modelling is much better at modelling bumps - coal loads and tarps for example. The SIM can do them but we use polygons and the more you have the bigger the machine you need to run the layout.

On my own N gauge layout I must confess sometimes it wasn't the most appropriate loco that was run but rather the one that ran best. So about ten years ago I started looking at Train Simulators on a computer. Initially they were square blocks that ran on a track but over time they have become much better.

The one I'm involved in is called Trainz. The enthusiasts buy expensive computers to run the simulator with powerful graphics cards but if you select the content very carefully it will run on Intel integrated graphics series 4000 or practically anything built in the last five years. One layout called Middleton for laptops was designed to run on a low end laptop. Realistically something like a GTX 1050 is as low as you might like to go.

The content is for the most part made by the community and is free which means there is a very wide range of content available including a number of assets suitable for an LBSCR layout. 230 had LBSC in the title at last glance and include things such LBSC signals.

My niche is creating wagons in Blender. They need research beforehand but once created they can be copied and repainted or to use the SIM term reskinned. Typically my wagons will be downloaded a hundred times but some popular ones have downloads in the thousands. So my interest in the society is your knowledge of the LBSCR. To give you an idea of the numbers my LBSCR wagons such as the LBSC 3plank, LBSC van and gas tanker have been downloaded 350 - 450 times each.


LBSC


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L B S C


BURGUNDY


WORPLESDON

One of Colin's LBSCR layouts has been downloaded 1,500 times and other LBSCR assets have been downloaded 2,000-4,000 times so there is some interest in LBSCR in the SIM world.


L E S C

Colin (Driver_Col) on Trainz has created both layouts and a session for LBSCR. The layout is called Drummond L.B.S.C.R. and he has also created an older layout, Billinton Route. Both are free but to run them you'll need a copy of TANE or TS19 and access to the DLS (Down Load Station).

N3V put them on sale from time to time https://store.trainzportal.com/ . Today, as I write, they are $19.99 US for TANE Platinum edition or $35 for TS19 Platinum Edition. I have seen TANE for $5 but even at $40 it is reasonable value for money.TS19 will let you trickle download from the DLS collection limited to 100 Mb a day but realistically a First Class ticket is required to allow higher download speeds. There are third party sites such as jatws.org which has all my content available for free download.

To try out Trainz on a laptop with an Intel processor with HD4000 series or better integrated graphics, you can run Middleton for laptops. Grab the bulk of the content from jatws.org first.

https://www.youtube.com/watch?v=KfeV1zm-VZ8&t=24s.

I suspect Colin's layout will require a more powerful machine. I would estimate at least a GTX 1050 GPU, which has a score of around 4,461 on the 3D benchmark https://www.videocardbenchmark.net/gpu_list.php

We do have much more control over the weather. Ken is particularly good at posing the models, so the screenshots that he has created on this and previous pages show what is possible.

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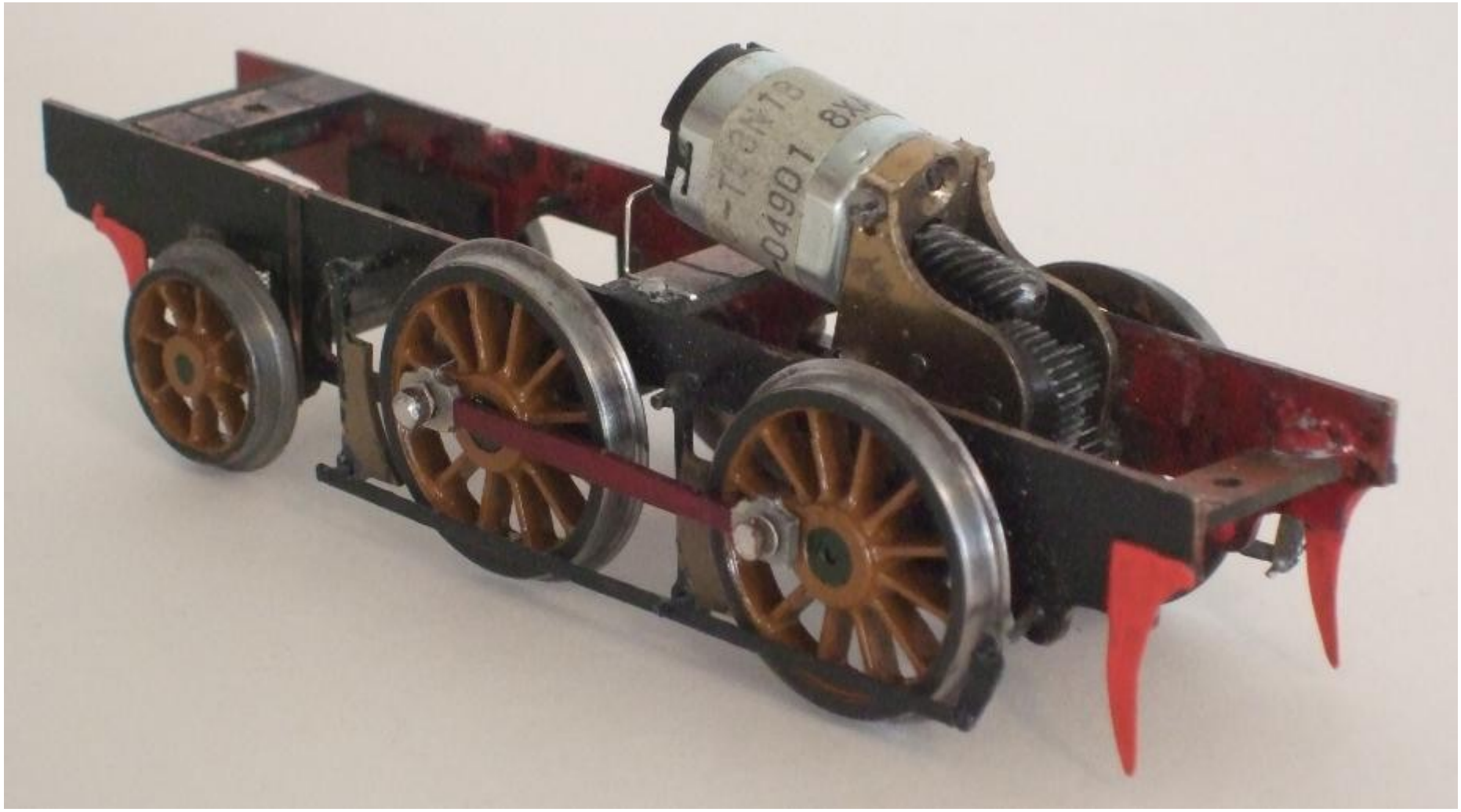
A Scratchbuilt “Hayling Island”

By Richard Barton

An essential locomotive for my layout was the little Sharp Stewart 2-4-0 tank “Hayling Island”, which was rebuilt by Stroudley in 1872 with a new cab, boiler fittings and larger side tanks. It was subsequently sent to the Hayling branch, where it was the mainstay of the service until 1890, when it was rebuilt with a small inspection saloon, appropriately named “Inspector”. This was only my second scratch built locomotive but, in truth, I had a lot of help. Peter Korrison gave me a present of the turned boiler fittings back in 2011 and it took the lockdown this Spring for me finally to get around to building it.

The chassis frames and coupling rods were milled for me some years ago by John Taylor of Sowerby Bridge and assembled by Simon Bolton in Ludlow. The Slaters' driving wheels have split axles and Walsall Model Industries supplied the carrying wheels. The gearbox is a "Pug Special" from ABC gears, fitted with a nylon bearing to avoid bridging the split axle, plus a small Canon motor. The gearbox is mounted on the rear axle, which is not ideal as it intrudes into the cab and I will have to source a fat driver and fireman to hide it. In retrospect the gearbox would have been better mounted on the front driven axle but I have not made this change, as it leaves the option open in the future to fit a compensation beam between the carrying wheels and the front driven axle.



There is little to say about the body work though I was grateful that some years ago I invested in a Tony Reynalds rivet tool, as the sides and top of the tanks are heavily rivetted. I was also grateful to Colin Paul for advice on dimensions and for a number of detailed photos of his superb model of “Inspector”. In the absence of photographic evidence I am not sure if the pipes from the safety valve to the cab were a later addition to “Inspector”. John Ritter suggested that Stroudley may well have fitted the improved Gifford injector manufactured by Gresham under license and that these pipes were the live steam supply. I couldn’t use a spare Terrier cab roof, as it was too large, so filed one out of Plastikard.

The body was primed and sprayed with Precision IEG but I had difficulty in getting the lining transfers to lie flat over the rivets, even with the use of Microsol. Rather than risk ruining the model with a poor paint finish I sent an SOS to Alan Brackenborough, who oversprayed with his own version of IEG and lined it beautifully. Transfers for the name came from Ian White years ago, with number plates from GUILPLATES.

“Hayling Island” is now in service- at last! It has the number 359 which it carried between 1877 and 1886. The next project is to build “Fratton”, the other Sharp Stewart to run on the branch, using a second set of etches from Redcraft for the very similar GWR 1384/WCPR “Hesperous”. The only known photograph of it is as “Bishopstone” at Newhaven Harbour between 1875 and 1878 and, having given up hope that a photograph of its renaissance as “Fratton” might one day appear, I will have to guess what modifications might have been made for passenger working. It was significantly larger than No 359 but Bradley says it was less robustly constructed. For that reason it is perhaps logical to think that any modifications would have been minimal.

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Virtual Blatchington 3

- a report of an on line Zoom meeting

First an explanation: Blatchington Mill is the venue for the Brighton Circle's annual modelling meeting, traditionally held each March. The meeting this year preceded lockdown by a very small margin and so, once lockdown was under way, there was a suggestion that we should repeat the experience using the Zoom platform, on line. The earlier meetings have been reported in the Digest 11 and this report covers the third meeting held on 14th October - known as VB3 for short.

Presentations were listed below, with links to articles that illustrate the topic.

Barry Luck

Mike Waldron

Mike Watts

Dave Searle

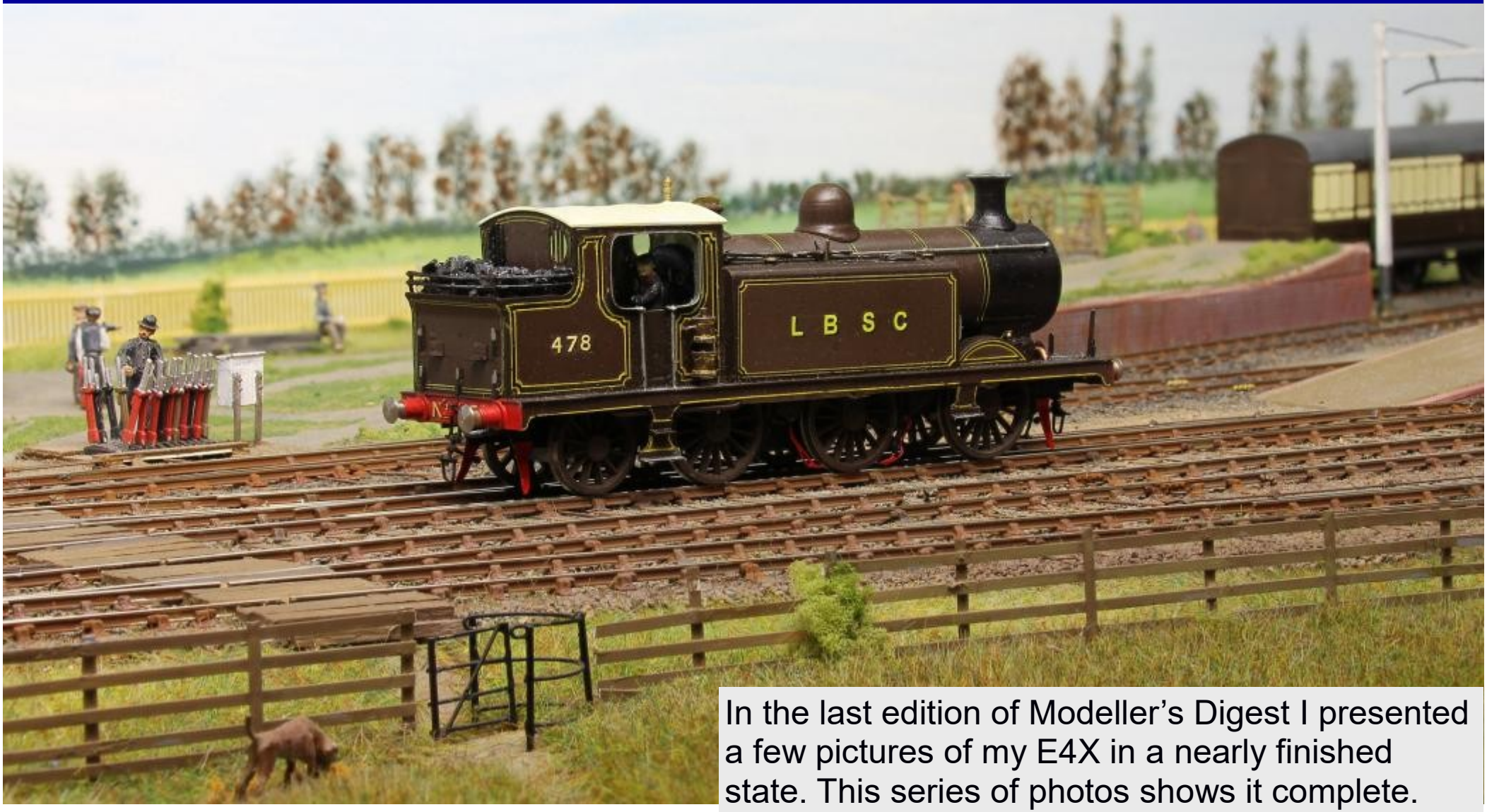
Andrew Jones

Eric Gates

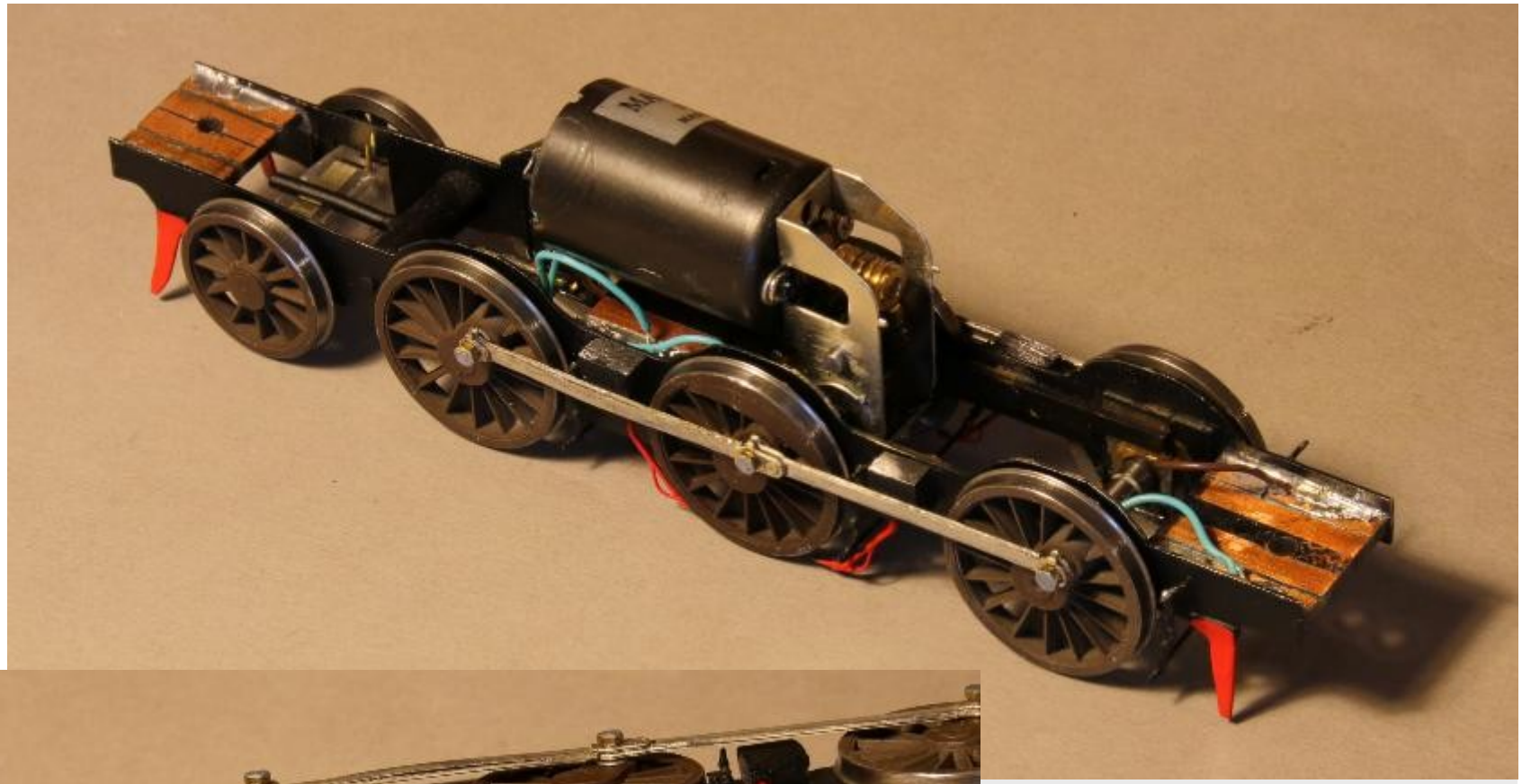
Alan Budgen

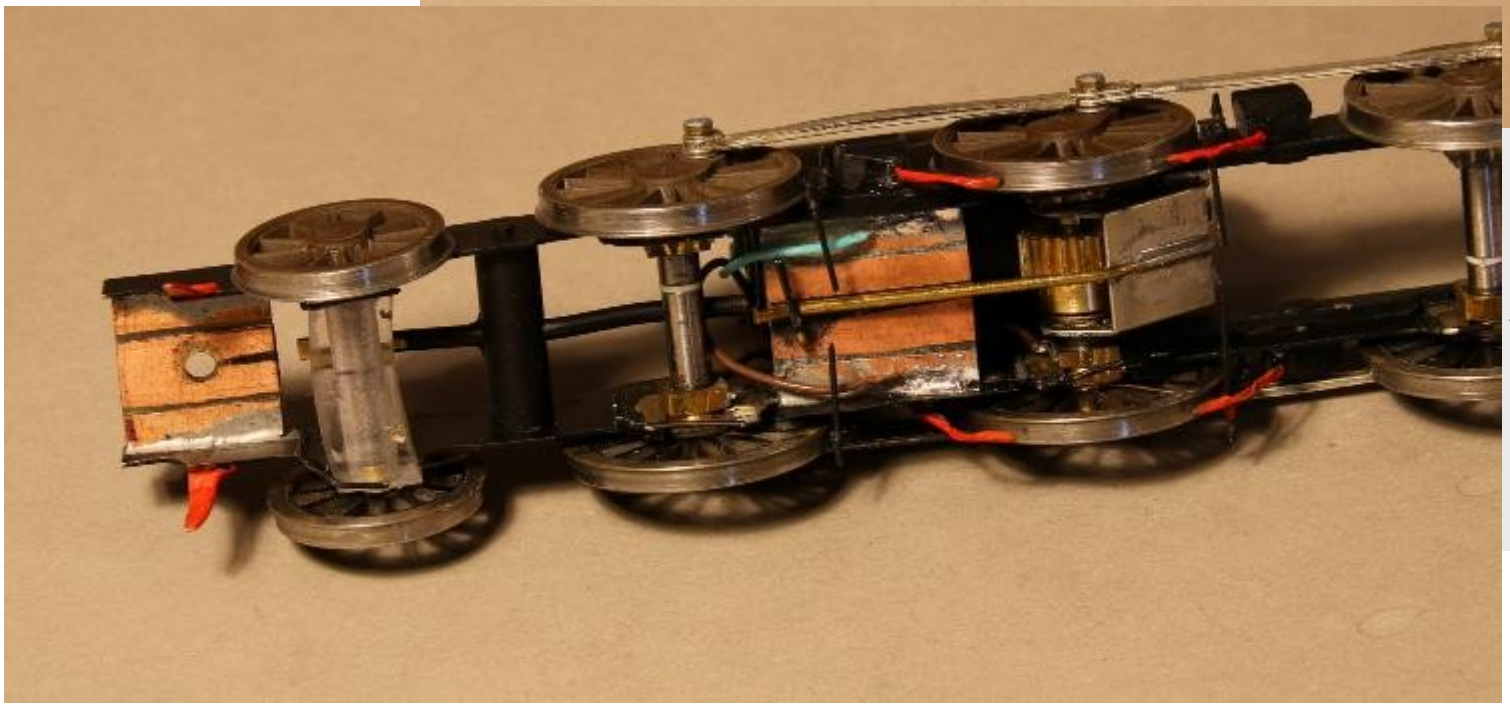
VB3 - Umber Locos for Plumpton Green

- Barry Luck



In the last edition of Modeller's Digest I presented a few pictures of my E4X in a nearly finished state. This series of photos shows it complete.





The loco is fully compensated with split axle pick-ups, Sharman wheels, Mashima motor and HighLevel gearbox. The radial axle box is made from Perspex.

Livery was completed with Halfords acrylic light umber spray, hand painted dark umber tank tops and edging and gloss Ronseal hardglaze varnish. Transfers were made up on clear decal sheet. The cab sides took three attempts of which the first was to paint directly on loco. The loco runs nicely with plenty of weight.

As recommended, I have sprayed the finished engine using Ronseal Hardglaze Gloss (diluted about 50/50 with white spirit), and then followed with two coats of the same but with a dollop of matting agent added to produce a satin finish. (As an experiment I tried Ronseal satin on a test piece and the finish was awful – don't be tempted!). In the photos the lining appears rather bright, but in normal viewing it looks ok to my eyes. Since the photos were taken I have added the maker's plates to the front splashers, and also the air brake and steam pipes to the buffer beams.

Gladstone no 184 ‘Stroudley’

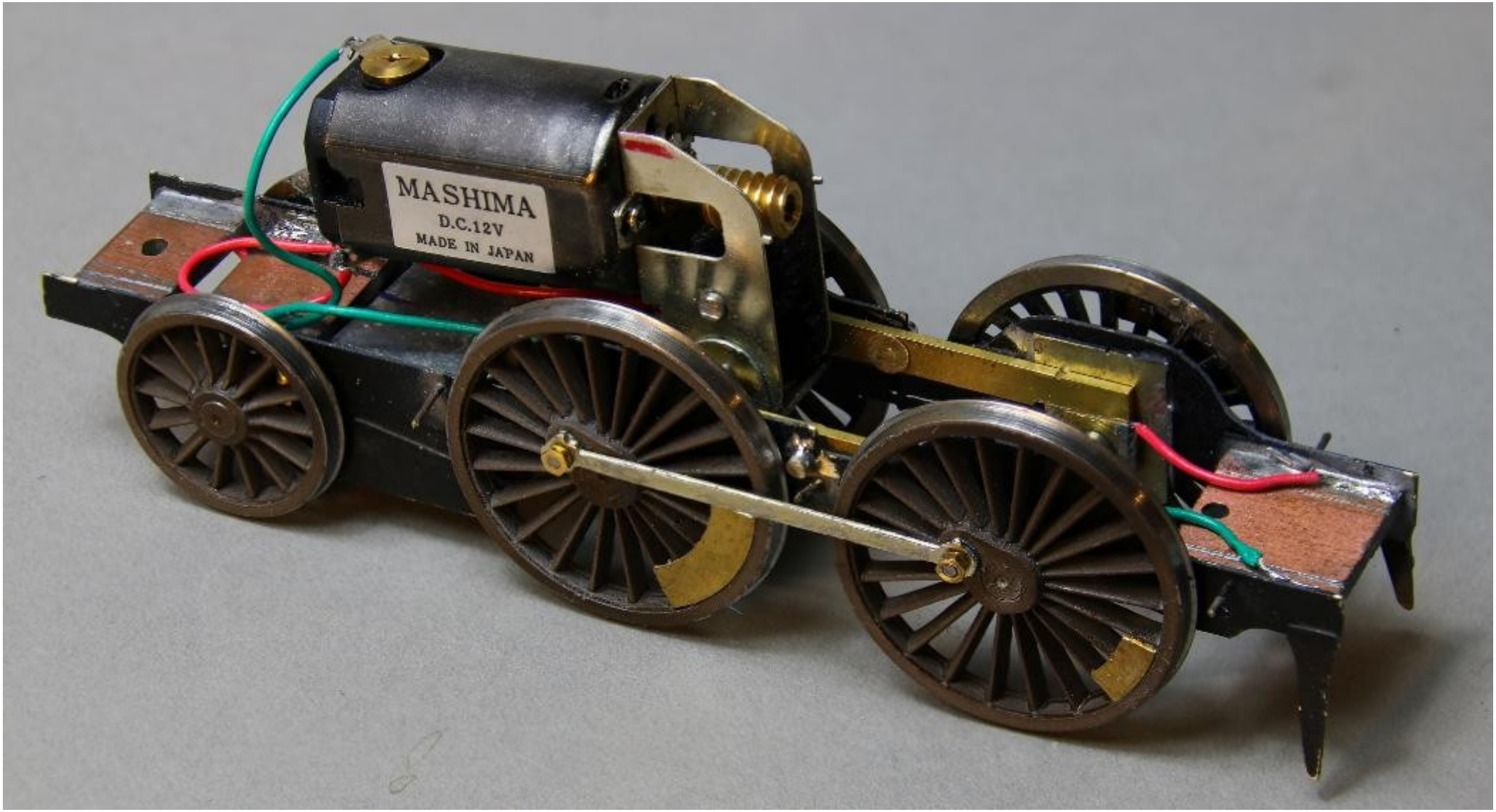
This is the second of three engines I’ve been working on since January. It is an Albion kit, and caused me some grief when building it, because of the very limited clearances in P4. I have used a set of Mike Sharman wheels which I bought many years ago before he sold the business. Mike’s wheels are slightly over width (2.5mm compared with Gibson’s 2mm), so perhaps I should blame that rather than the kit!

I part built the body first, cab front and sides, and splashers, and then put the chassis together. It became clear at that stage that there was inadequate side-play on the centre axle to negotiate curves, and that the leading wheels would not fit between the splashers without risk of short-circuit. Fortunately, I had only tack-soldered the body parts together, so not too hard (although very frustrating) to get them apart, move them out a touch (0.5mm) and start again.

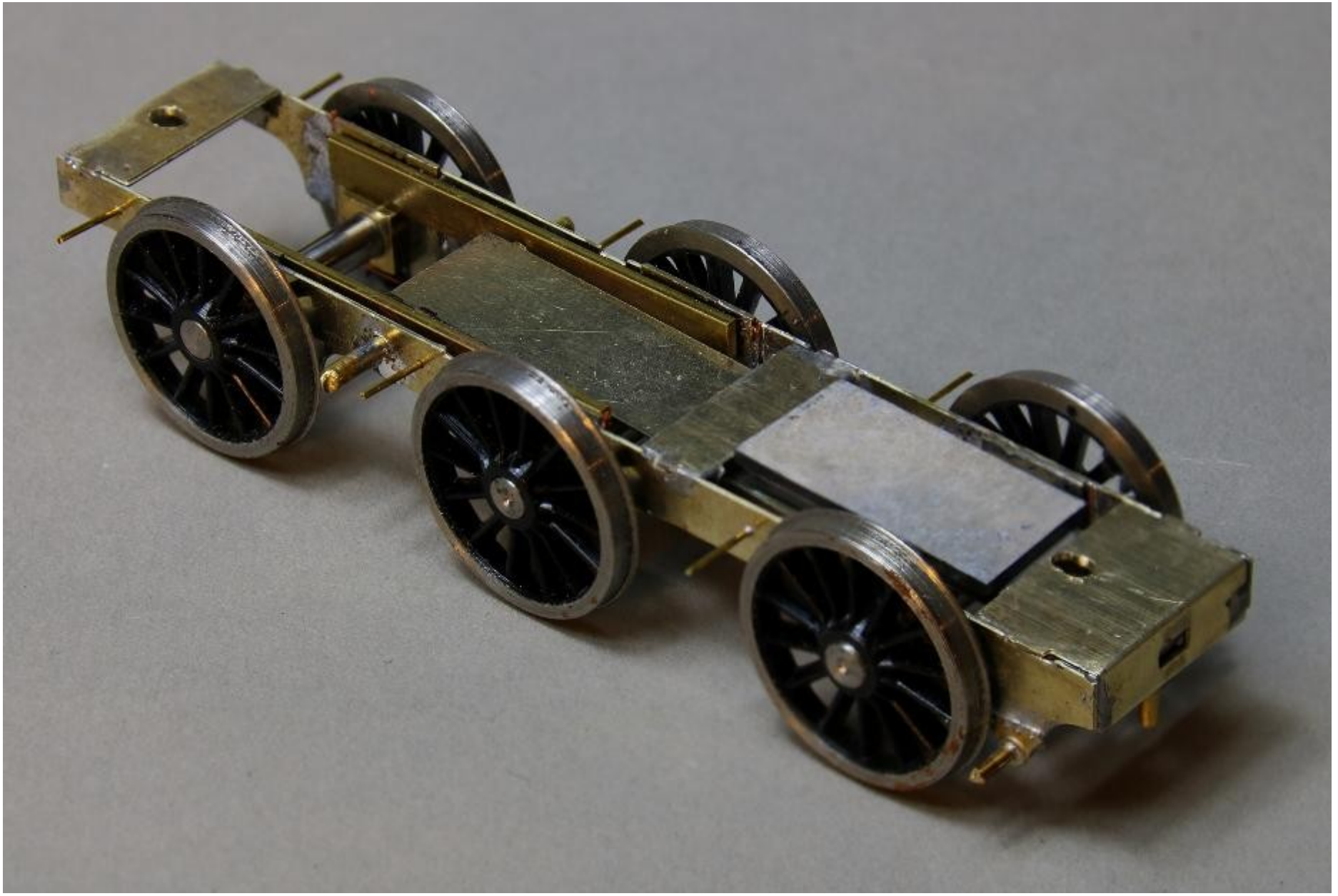
I replaced the boiler with 6 thou nickel-silver using the brass original as a template, and rolled it using my rolling mill, as for the E4X (see LBSCR Modellers' Digest 11) – much easier in my view than trying to anneal and bend brass. Everything else went together without too much difficulty.

I had a similar problem with clearances on the tender, and this was much more difficult to resolve because it was virtually finished before I realised the problem. The kit uses a framework inside the tender side sheets, and it was this that caused the problem. The framework seems to me to be unnecessary as the tender sides give plenty of rigidity. I didn't like the idea of completely dismantling the body to get the frame out, so ended up cutting it out with a grinding disc – a long and laborious process.

The chassis is built using my tried and tested methods – fully compensated, split axle pickup, with a Mashima 1424 and High Level Models 'Roadrunner+' gearbox. The boiler and smokebox are full of lead to give maximum tractive weight. However, this makes the loco very front heavy, so I've added weight to the firebox in the chassis, and the tender hangs off the drawbar to give sufficient weight on the trailing wheels. The loco with tender hanging on the drawbar weighs in at 190g, of which 170g are on the driven axles. The total axle loading on the tender is 57g with a further 15g resting on the drawbar. It will easily pull the longest train I can manage on Plumpton Green, six heavy balloons.


MASHIMA
D.C.12V
MADE IN JAPAN

The tender chassis shows the side beams at the rear, whilst the leading axle runs freely, weighted down with about 20g of lead. The lead is glued to a strip of nickel-silver which pivots about the support for the side beams.



Painting follows the same lines as my E4X, but for lining I have used Precision ‘gold lining’. The cab and tender sides are my first attempt at direct lining on the loco. The boiler bands and splashers are hand-drawn transfers.

I’ve chosen no 184 simply because it was one of a very few locos that retained a name in Marsh livery. The lettering is courtesy Mike Waldron from his contact in Belgium. As I write this, the postman has just delivered more transfers so that I can now finish my I2!

I2 Scratchbuilt using a Mashima motor, High Level gearbox, Sharman bogie and pony wheels and Gibson drivers. It is fully compensated with split axle pick up, Perspex radial axle box and simple bogie pivot. The painting process has been the same as for the E4x but the panels were lined directly using precision lining gold. The upper panels had to be redone using transfers. Painting involved a coat of gloss varnish, transfers and lettering then more gloss varnish. A test piece using satin varnish showed a very rough surface so the preferred recipe is Ronseal gloss, thinned 50/50 with white spirit plus a dollop of precision matting agent. Details still to add include coal, crew, glazing, buffers and couplings. This particular loco was involved in the Streatham Common accident and ended its days as a bomb shelter at Bournemouth Central shed.

I have paused work on my three new engines and have started videoing the layout for something different to do. Here are links to the first two from the series

https://youtu.be/G_ZXe1R81gs
https://youtu.be/ZhQtg3LH8oQ

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VB3 - Signalling for Littlehampton Marine

- Mike Waldron

VB3 - 4 S Scale Locos in 1912 Umber Livery

- Mike Watts

At the Virtual Blatchington event (VB3) in October 2, I spent 10 minutes or so describing my 4 Brighton ‘modern image’ locomotives. Of course the term has no official meaning - it is just that someone in the LB&SCR email group used it to distinguish my efforts and those of others like me, from the plethora of Craven and early Stroudley machines which dominate our airwaves these days!

But like so many, I too used to be a Stroudley enthusiast. My former layout, the Wandle Valley Railway was meant to represent the early 1880s on a minor Brighton line, complete with the obligatory small locomotives in IEG.

I first started scratch building in S scale (1:64) in the mid 1990s upon the prompting of my late friend, Norman Pattenden of the SW Circle. Prior to this I had been a firm Southern Railway 1930s enthusiast, having built 15-20 4mm locomotive kits over the years from kits of white metal or brass. Norman gave me the encouragement to apply scissors or small shears to 10 thou sheet brass, and I was hooked! I built A1 No. 65, Tooting, for my new layout, the WVR and quickly added D1 No. 33 Mitcham and E4 No. 464 Woodmancote to the mix, as well as a C and an E in Stroudley dark green. Things went well until the WVR deteriorated due to a couple of baseboards warping and twisting with age. It was time for a change!

I thought I might try my hand at ‘big’ locomotive and I thought that, well, they don’t get bigger than an Atlantic on the Brighton. So started my leap of 30 years from 1882 to 1912. As it happened it wasn’t much of a leap to a larger locomotive. The biggest problem to overcome was that

clearances between driving wheels on the H1, and between them and the front bogie were very tight. In 12 inches to the foot there's barely any distance. So even in 1:64 clearances would be too tight, but an odd millimetre here and there in the length of the body solved that problem. The locomotive has some weight added but with its large Portescap it can easily handle 6 brass bogie coaches, which is a longer train than my layout can handle anyway. I chose the H1 to avoid the complications of outside valve gear, so No.38 has run its journeys back and forth for several years.

But No. 38 is special! A few years ago the S Scale Society (of which I am a member), had a celebratory meeting at Keen House and it coincided with a visit by me to the UK. So No. 38 had a chance to show its paces on the MRC circular S scale test track. The test track was in sore need of some maintenance, but No 38 showed them all what could be done. It performed very well.


38
L B & S C R

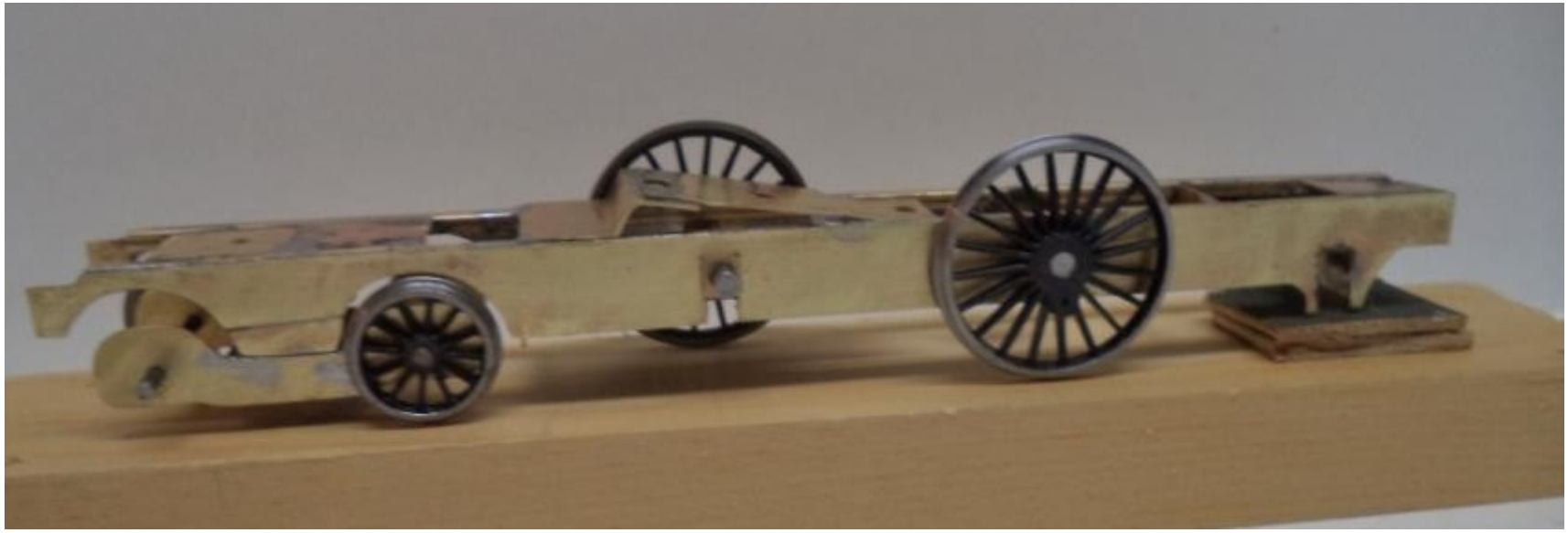
Now move on a year or so. Back in the 1990s, when my IEG E4 No. 64 was being built, I thought that building 2 of something would be almost as easy as 1 of anything, so an unfinished E4 sat on my shelf for a few years. With No.38 now performing well the idea of finishing E4 No. 467 came about. The etched number plates had ben around for years, so I speculated that the number plates for No. 467 had been specially preserved by Brighton Works upon overhaul in umber livery. I know that in real life, that would have been unlikely, but I have never seen a photo of 467 in early umber to prove me wrong, so thus it remains! In any case the old phrase ‘it is my train set’ applies.


FORD GREEN
L B & S C R

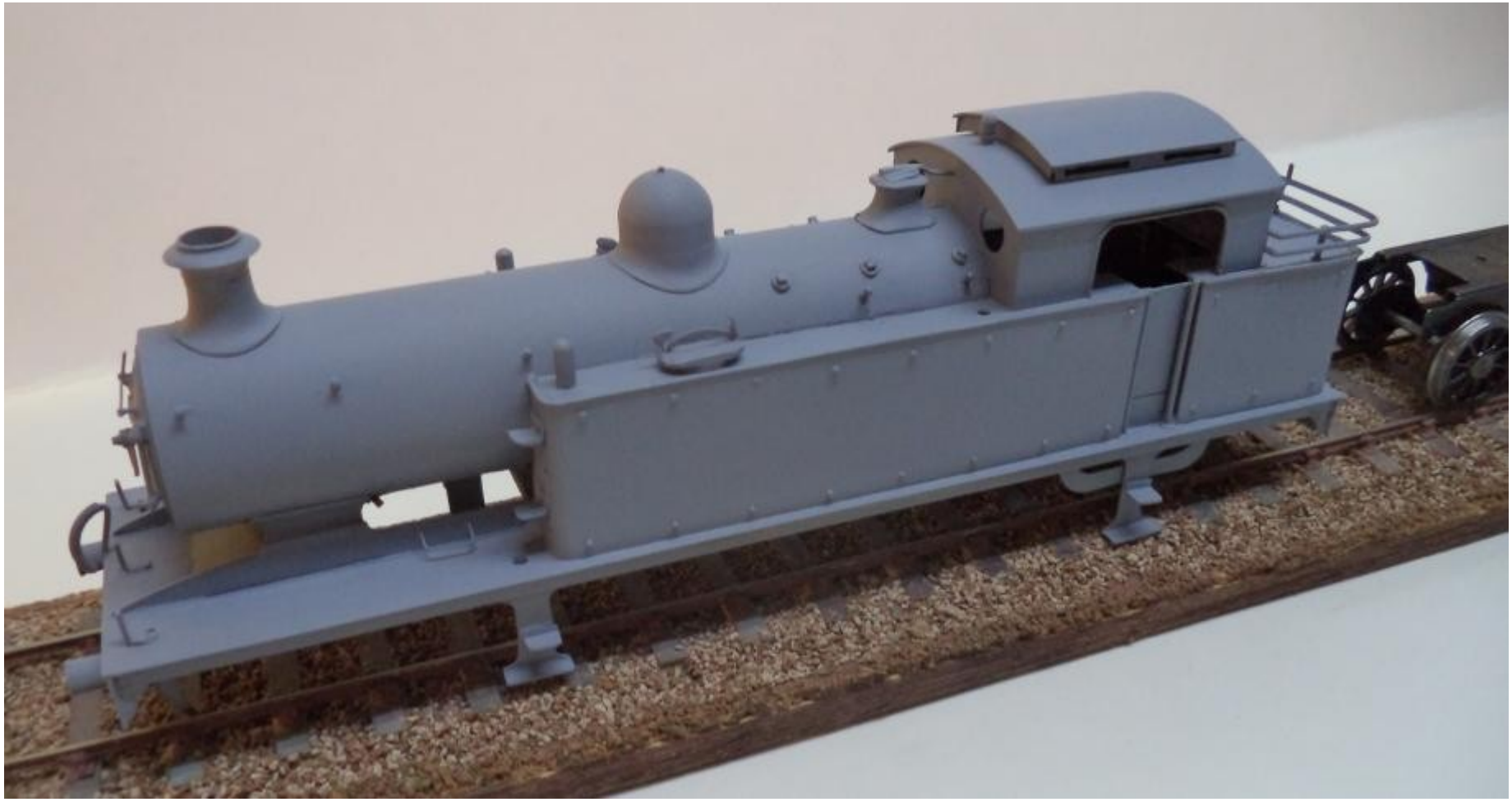
Now the big engine ‘bug’ really bit me. I had fond memories of seeing the J tanks in SR green or early BR livery at Eardley in my trainspotting days so why not try a J tank. Once again I took the easy route and went for the J1 to avoid outside valve gear. It was a fairly conventional build, although the trailing truck has given me some trouble over the years. As an aside, I am a fan of springing all my locos, none of this compensation stuff for me. It always worked well in my EM gauge efforts and all my other S scale locos, including my H1 (which thinks it is a 4-6-0 with some coupling rods missing!). But No. 325 Abergavenny took time to cure its troubles. Still it successfully goes around 3ft 6in curves (tight enough for S scale), so it remains as it is. I documented its build on my web pages at:
www.michaelwatts.ca/One2SixtyFour/1264.htm

So, I thought three years ago, that is it! I have built enough locomotives for my small S scale layout - far too many really. Although I enjoyed building them all, it is all rather pointless to go on building for the sake of it. Then, out of the blue I had an email from an older member of the S Scale Society. Apparently in the early days of S scale modelling in the 1950s or 1960s, some one had decided to make a few brass bodies for a small selection of British locomotives and from this a few LBSCR I4 bodies had been made. Two of these had survived and the club member was prepared to give me one of them for the cost of postage to my home in Canada. At first I protested that I did not want any more, but then curiosity got the better of me and for a few pounds postage, this beat-up old I4 locomotive in 1:64 scale arrived in my mailbox.

It was a sorry sight. There was very little detailing on the loco body. The chassis did not function in any way. When I separated the chassis, it was crudely constructed with over-scale wheels, compensation that was hopelessly constructed and a very poor and old 3 pole motor. The chassis had excessive lead weight added. So all that lived below the footplate and connected to it was consigned to the rubbish bin and I set about making a new chassis. Having built one for Abergavenny, I speculated that building one for No.78 would be more of the same, except a little smaller. I had no remaining Portescap units, so I fitted a new 5-pole open frame motor, with a new custom-made cradle fitting to hold it in place.



But adding details was another story. The most obvious missing parts were the raised edges to the side tanks and bunker and missing rivets to both. Soldering edge strips to the tanks was not too difficult, but adding rivets to the thick brass pieces of the body much more so. Drilling holes for them was difficult and trying to solder short pieces of wire to simulate rivets even more so. In the end the problem was mostly overcome by using ‘cyano’ to glue them in place, but I am not wholly satisfied with the result. Still, the lining of the Umber livery tends to hide small errors. I gave No 78 a new chimney, a new dome and a new safety valve unit There are still one or two minor details to be added, one of these days!



Upon reflection, if I had decided to build an I4, I might have been better off building new completely from scratch. But no matter, No. 78 is a very handsome locomotive, and quite in keeping for the size of my layout, unlike Nos. 38 and 325!

So ends the LBSCR ‘Modern Image’ locomotive phase of my life. Now, if only I could get to take the 3 big ‘uns’ to Keen House for a long run. Oh well, never say never!

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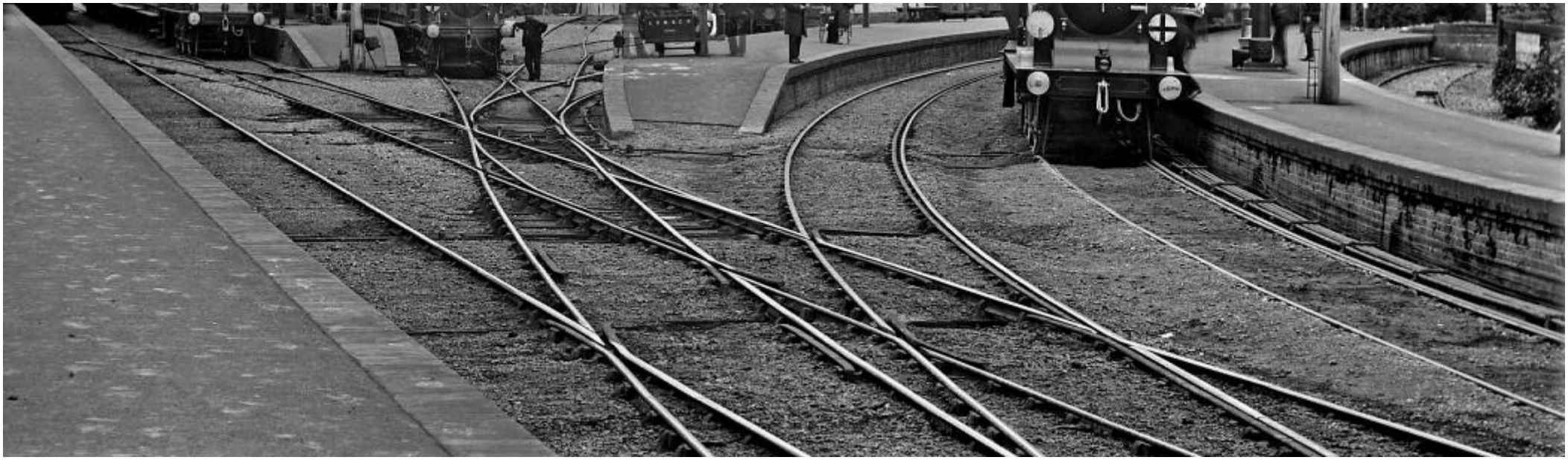
VB3 Lewes 1886
- 2mm Scale Trackwork

By Dave Searle

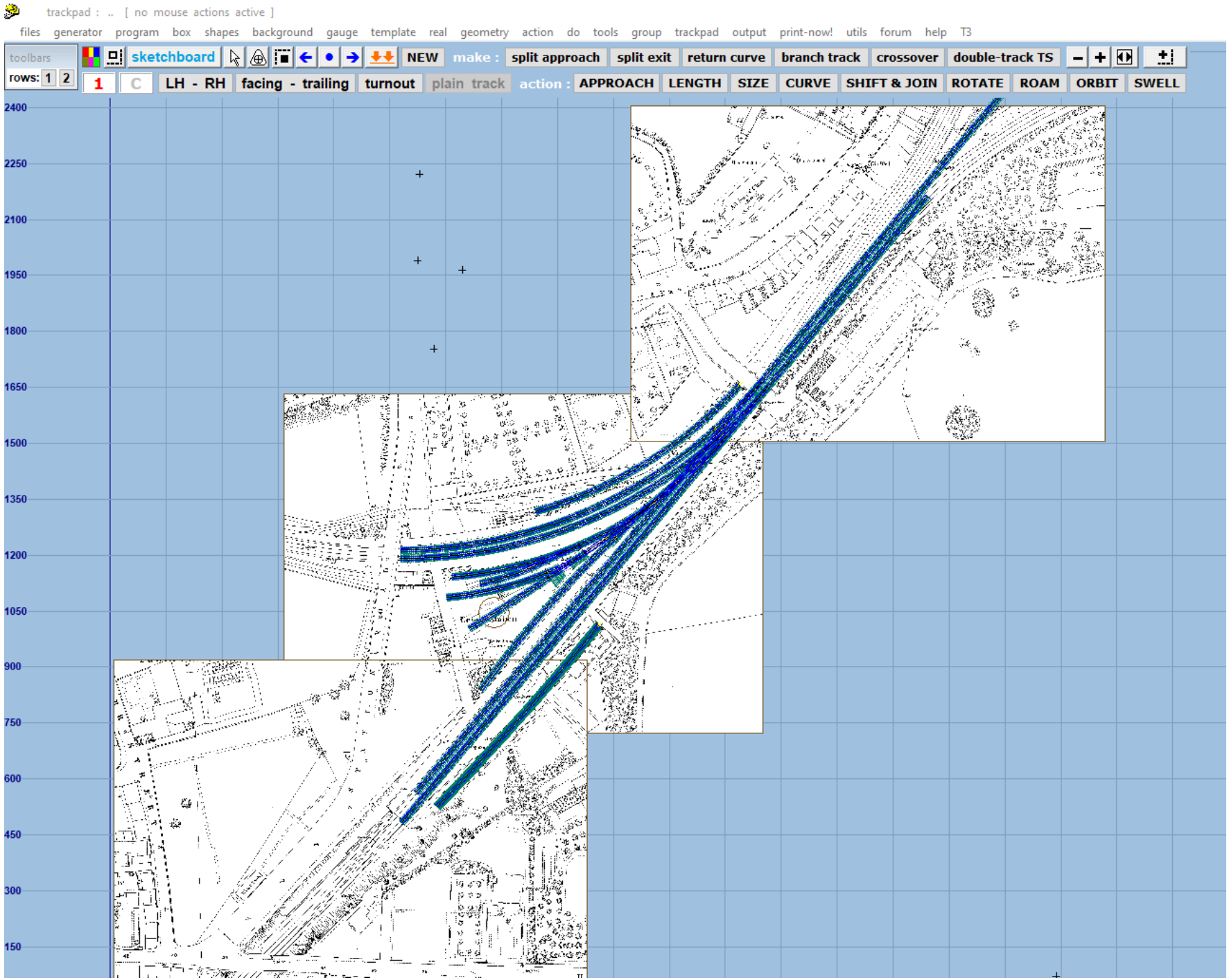
Templot

I used Templot to design the track arrangement for the first part of the trackwork.

The formation includes a double track junction, closely followed by a single junction leading into the bay and triangle between the platforms. There is a single slip for exit from the triangle eastwards. This photo taken by E.J.Bedford in 1886 [Fig 1] shows what we are aiming at.



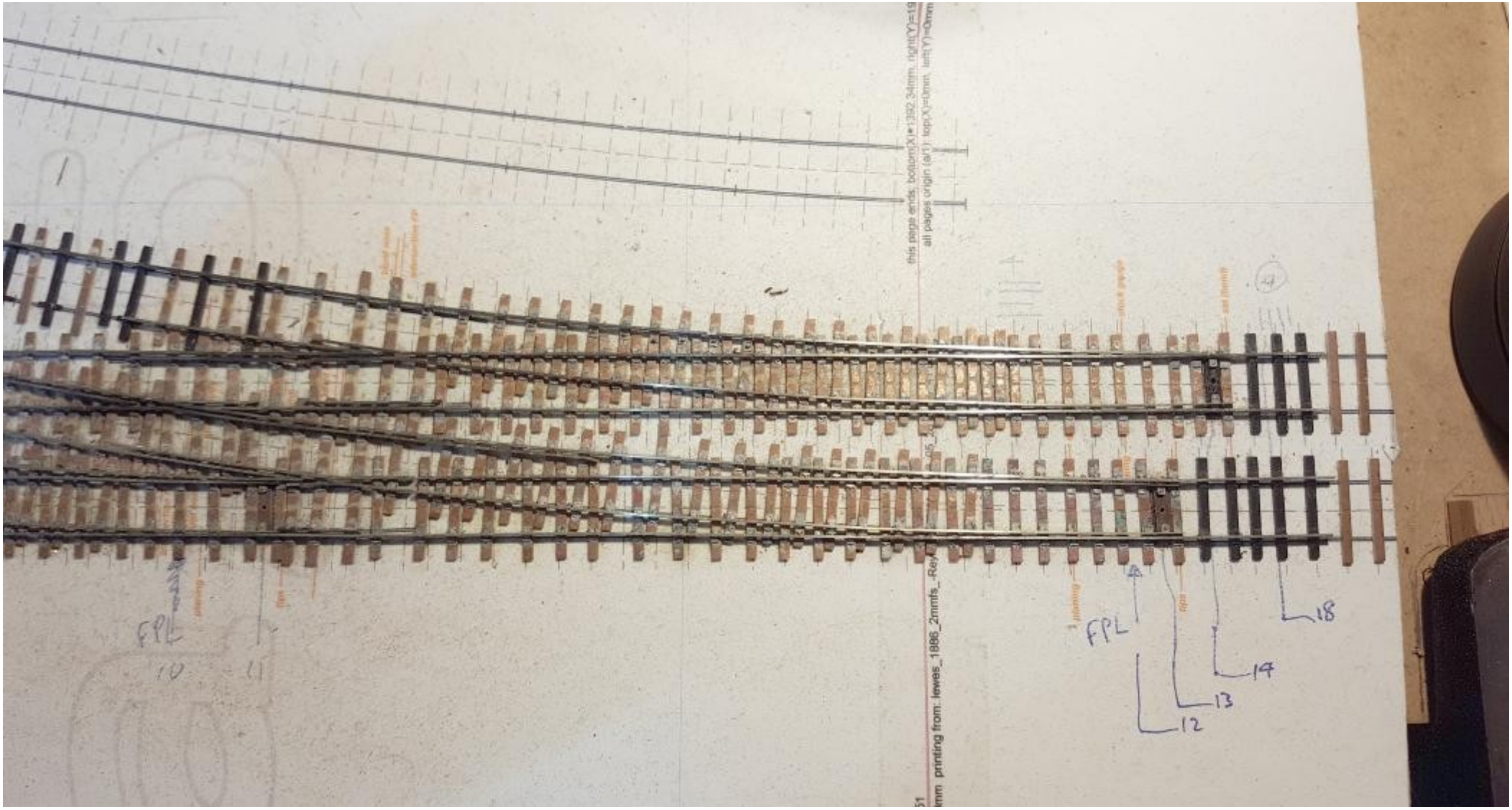
I imported the 1:500 Ordnance Survey map from 1873 into Templot as a background to work over [Fig.2]. When completed, it was printed out and stuck to a piece of 6mm ply using 3M Spray Mount. The ply was firmly screwed to some 18mm MDF, to prevent warping, and put on the workbench.



Sleepers

The LBSCR used interlaced timbering for points, with three full length timbers under the crossing. The interlacing started after the end of the switch rails. [Fig. 3]

I am using a mixture of 2mm Scale Association Easitrac 9’ plastic sleepers (part 1-162) with moulded in chairs for much of the plain track. Copper-clad sleepers (part 1-020) and soldered construction are used for the point work for strength and easy of assembly [Fig.4]. They will also be used under some of the continuous check rails in the London platforms. The sleepers are also held down with the 3M Spray Mount.



Rail

Rail is standard Association nickel-silver code 40 bullhead (part 1-006). It is cut either using a very fine 8/0 piercing saw or an Airwaves etched stainless steel micro saw held in a craft knife handle.

Chairs

The Association produces some very nice etched nickel-silver chairs in three types: plain, slide and check rail chairs (part numbers 1-145, 1-146, 1-147). The jaws on these are carefully pushed through using a small screwdriver and a jig with slots in it [Fig.5]. The resultant chairs are very small and fiddly to slide onto the rail – Fig.6 shows them in a 1cm square. With care, liquid flux and thousands of small solder balls, the track is gradually appearing above the printed Templot plan.

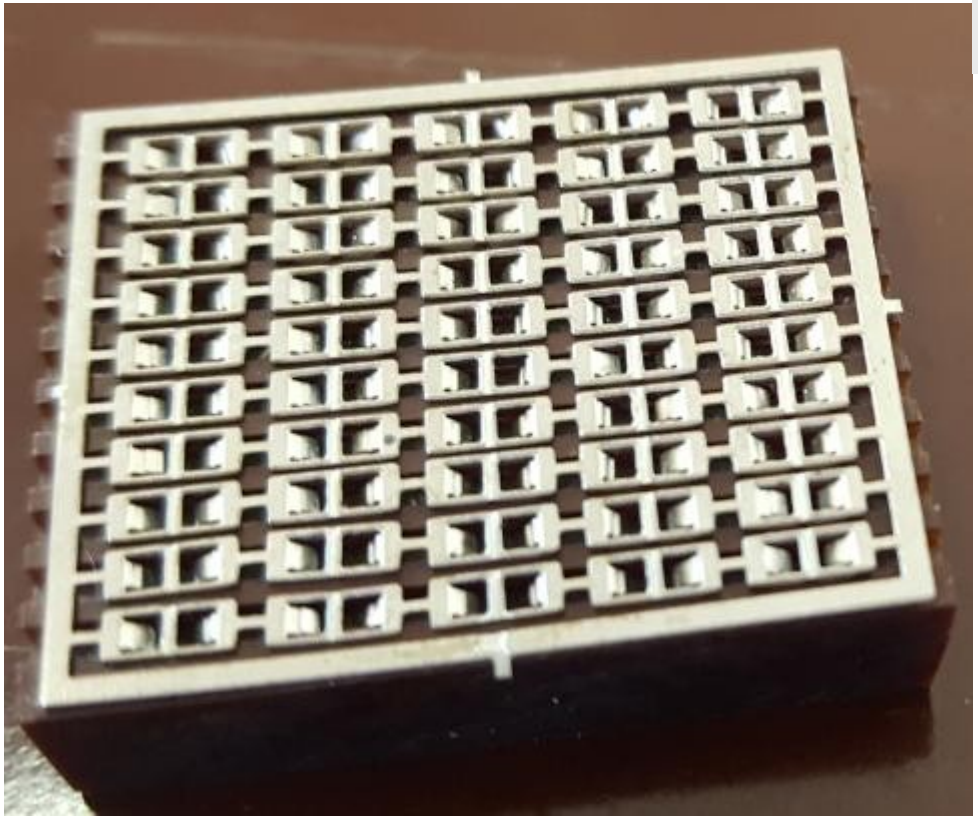


Fig 5

Fig 6

Turnout Operation

The points will be operated by servos or slow-motion point motors from below the board, with a single wire up to the centre of the plastic tie-bar. Holes have been drilled through ready. The tie bars are Association Easitrac ones (part 1-430).

Point Rodding

Prototype photographs show the routes of some of the point rodding. The rest has been deduced from the location of rods crossing the track and the need for facing point locks. Association point rodding will be used in due course (parts 1-601 to 1-610).

Ballasting

Ultimately the track will have deep ballasting covering most of the sleepers, leaving just the jaws of the chairs still visible. Some sleepers will show around the toes of the turnouts. Experiments continue with different products searching for a suitably fine granularity to represent the all-over ballasting.

Slow Progress

Progress is glacially slow – there are hundreds of soldered joints to make, as well as fashioning the crossings and switches. I have also been working through lock-down, so have not had as much extra time as I would have liked.

I had quickly added the crossover between the Brighton platforms in Templot without checking its precise location. Of course, once I had built it, I checked the photographs and realised it needed moving about two inches eastwards. It was carefully lifted and moved successfully. [Fig.7]. The feeler gauges in the photograph are used to check the crossing and check flangeways.

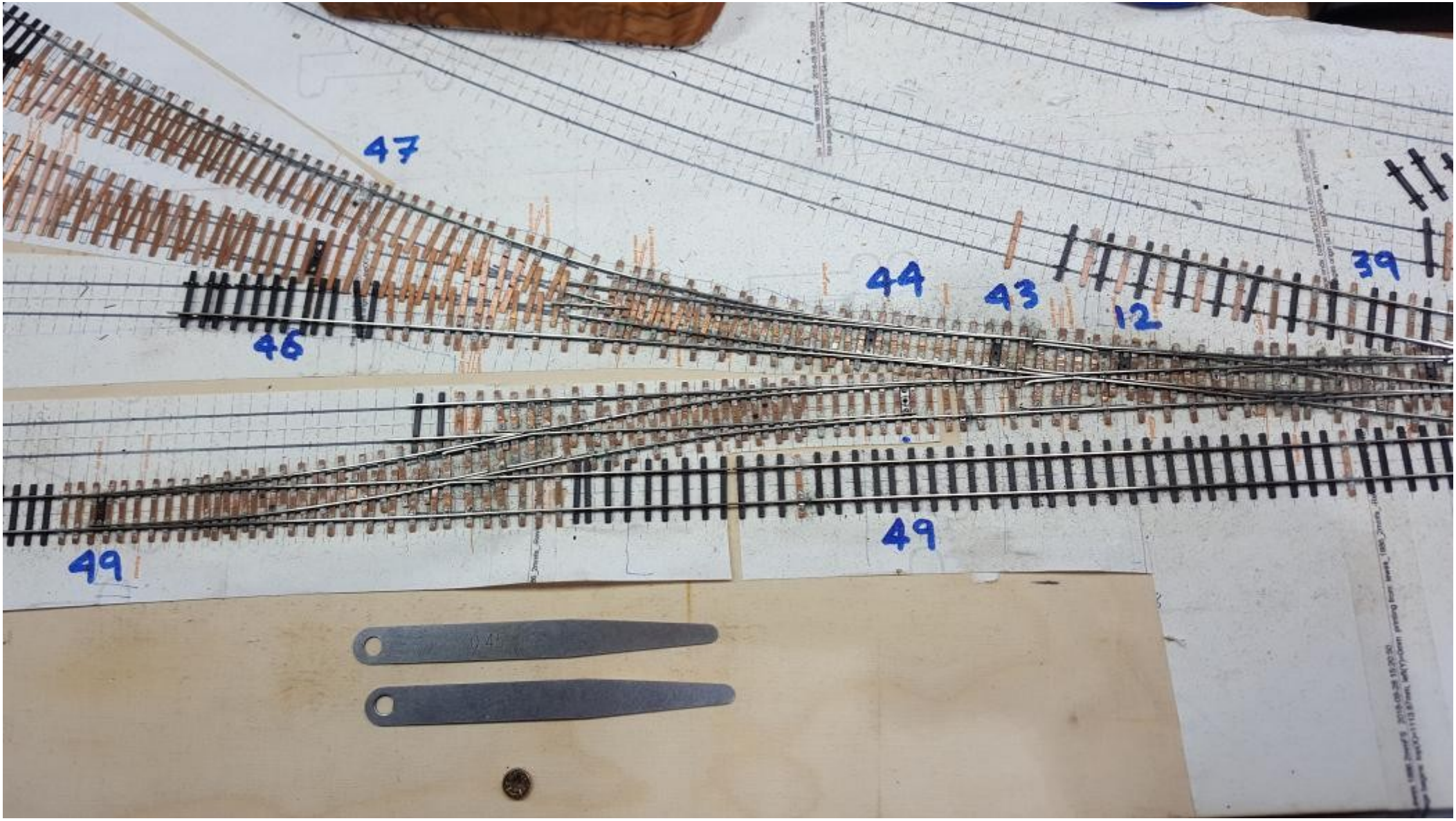
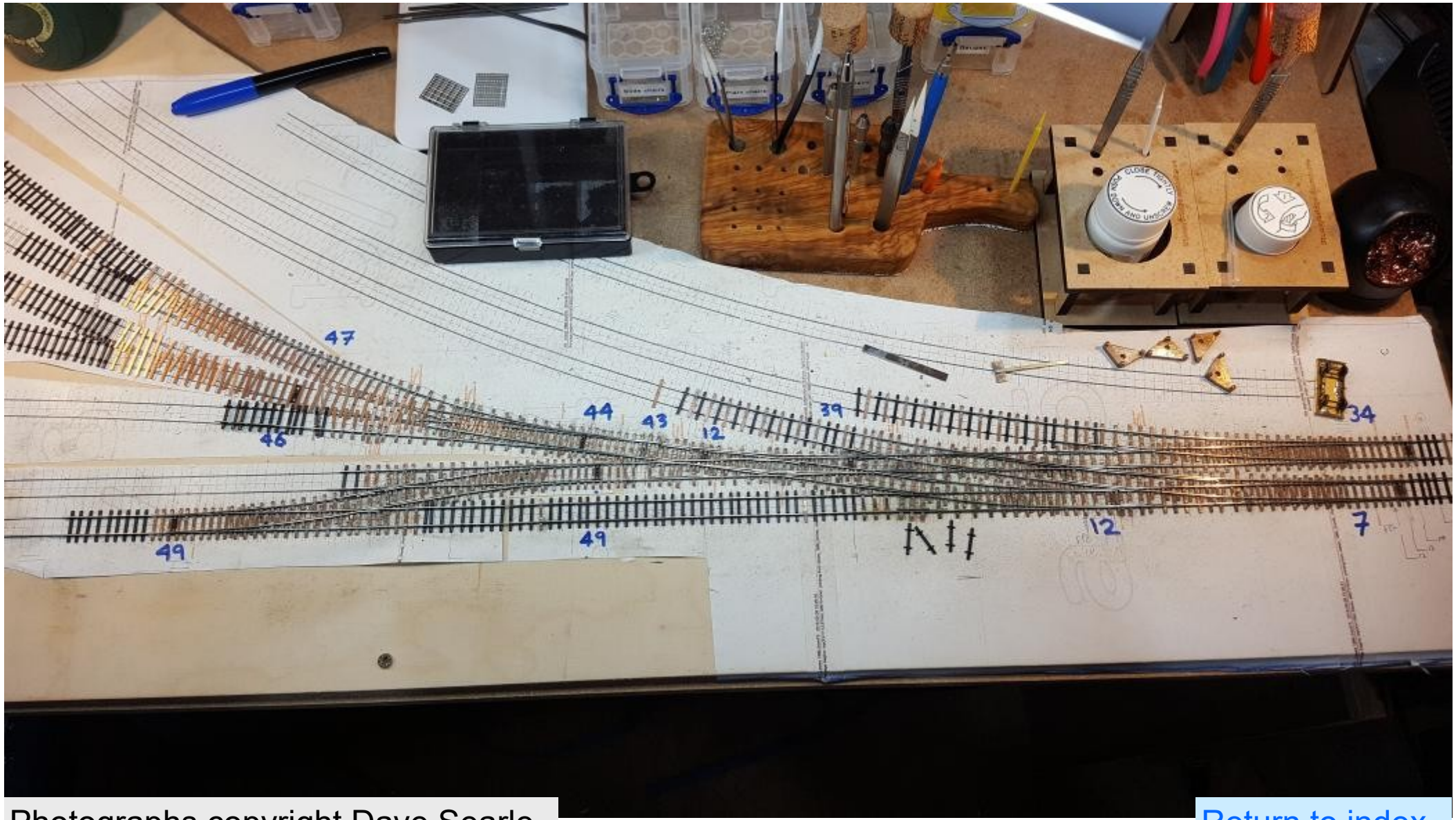


Fig.8 shows the current state of play, with work now moving into the triangle with the long tandem. The large numbers drawn on the plan indicate the point levers numbers from the signalling diagram.



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VB3 - Photograph

- Andrew Jones

A photograph of Willingdon, which was shown by Andrew Jones. There are likely to be more examples from the Kelsey collection in future editions of the Brighton Circular.

Courtesy of Rosalind Hodge

VB3 - No170 - a Craven scratchbuild

By Eric Gates

I have heard all sorts of stories of people beginning a project because they had something in the spares box that provided a starting point. In this case, it was a stovepipe chimney - and I was not even sure that it would get used for this particular loco.

I have built a number of etched kits to date and indulged in some very heavy modification of other kinds of kit, but I finally got round to the idea that I should really try my hand at scratch building. Looking through Bradley, I spotted No 170, an inoffensive little 2-4-0 tank, built in 1863. It appeared to be the simplest loco that I could find, with not too many coupled wheels, a flush topped firebox and inside frames. It also had a stovepipe chimney, just like the one that was in the spares box. As far as I am aware, there is no photo of this loco or of its twin and only the one drawing – by Burtt. There is also a little bit of description in the text of Burtt, but unhelpfully it does not entirely corroborate the drawing. There is therefore quite a lot left to the imagination. However, somewhere out there, there may be another model of 170, as I have a feeling that Peter Jessop or Clive Cobley may have built one many years ago. I have often wondered what happened to the locos that ran on Siddlesham and Selsey and I have heard a rumour that those in Craven livery ended up with someone who thought that they were South Eastern; what a fate!

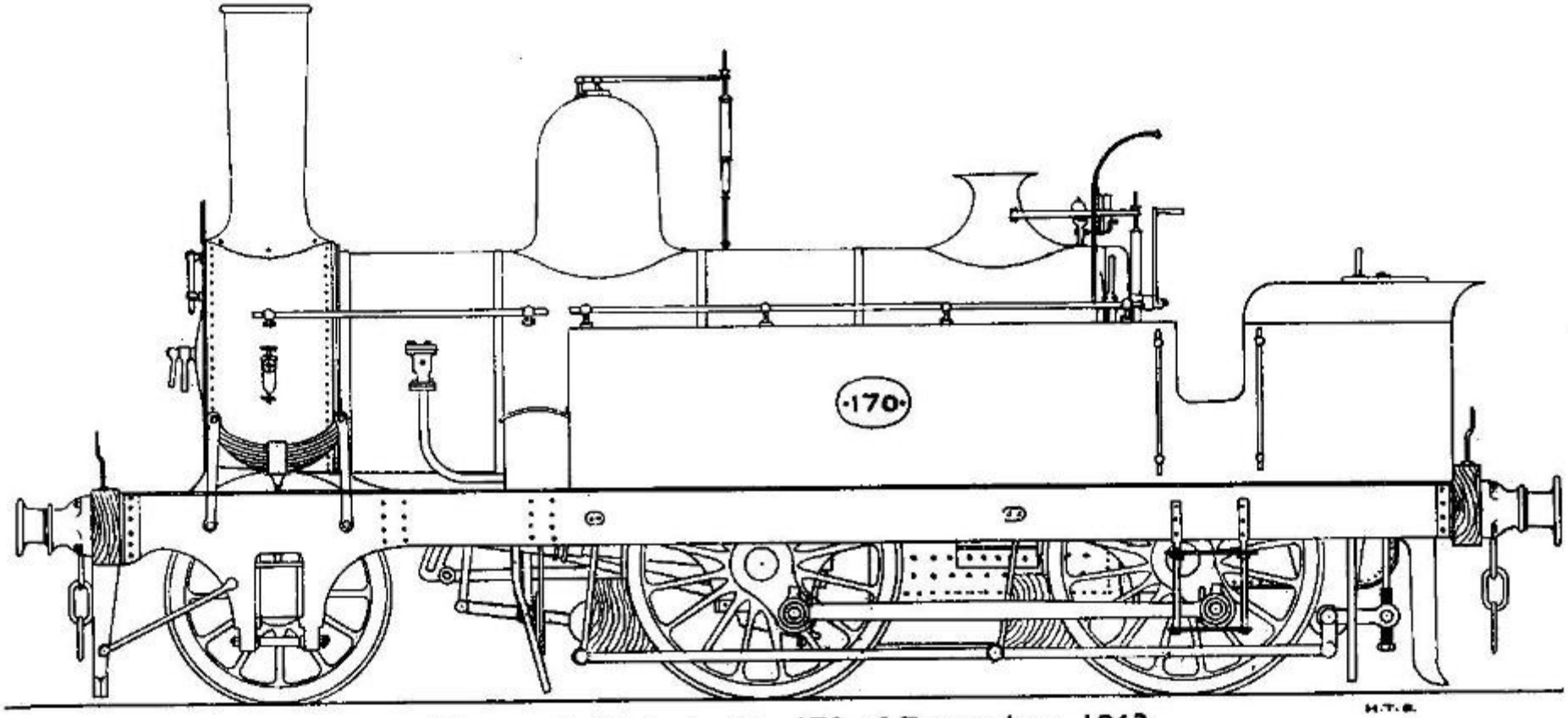
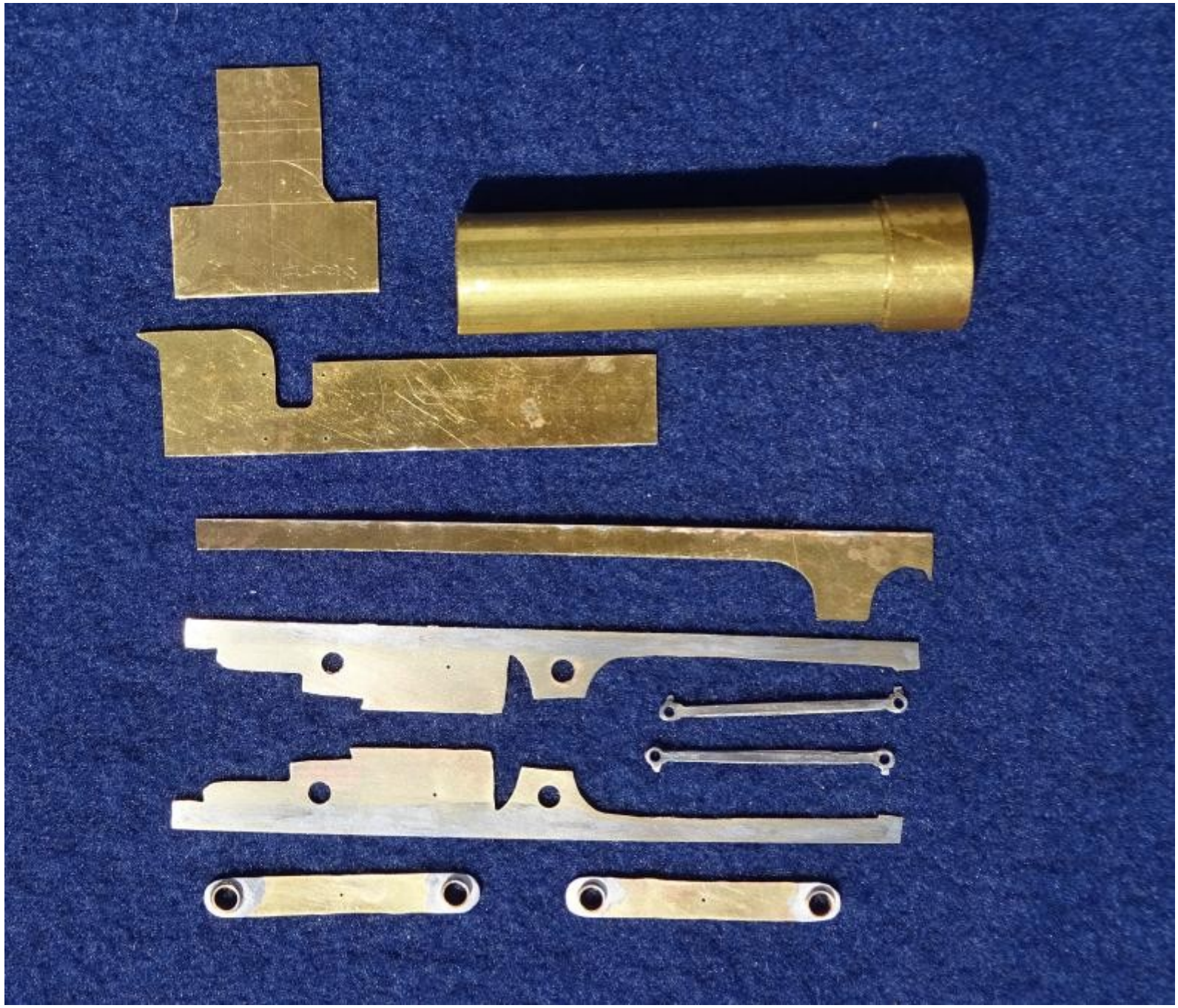


Fig. 49 Craven 2-4-0 tank No. 170 of December, 1863

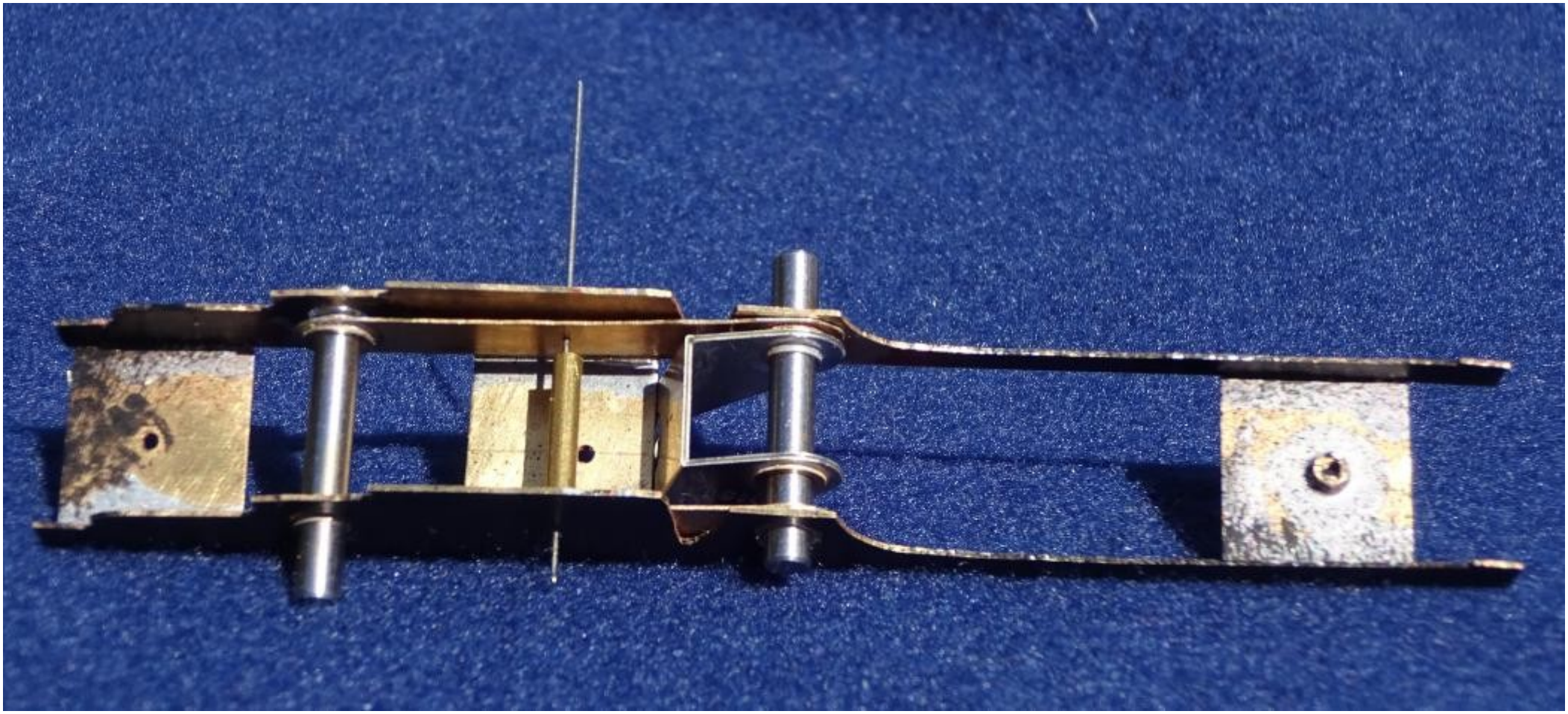
Step 1 involved drawing out the key dimensions on paper – the old fashioned way. I have never sat down to master software design packages and, for this purpose, some dimensioned sketches have been sufficient. The side tanks and bunker made up one drawing, the valences another and the frames, balance beams and coupling rods (all with common lines to locate the wheel centres) made up a third. Two pieces of brass were soldered together to create matching sides and the templates were stuck on top. Crankpin/wheel centre holes were drilled out and the outlines were fretted out with a piercing saw: all very traditional compared to much of the high tech. methods

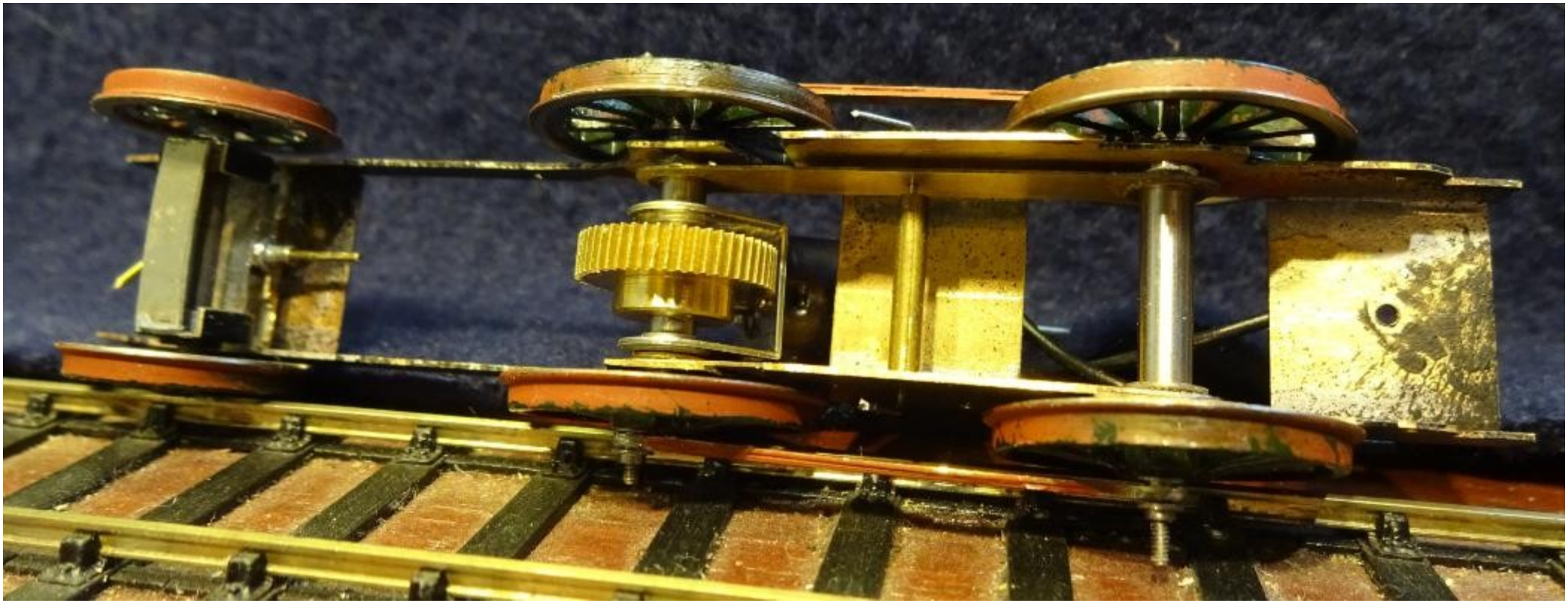
that are often described in this journal. The footplate was drawn at the same time, to map the wheel spacings and valence, but of course this only needs a single thickness of brass. The result is a kit of parts which is illustrated, together with the tube that will, in due course, become a boiler and a blank that will become the weatherboard of the cab.



The chassis assembly came first, on the basis that, if I could not get that bit right, the rest could be quietly forgotten. The design uses simple three point compensation. The

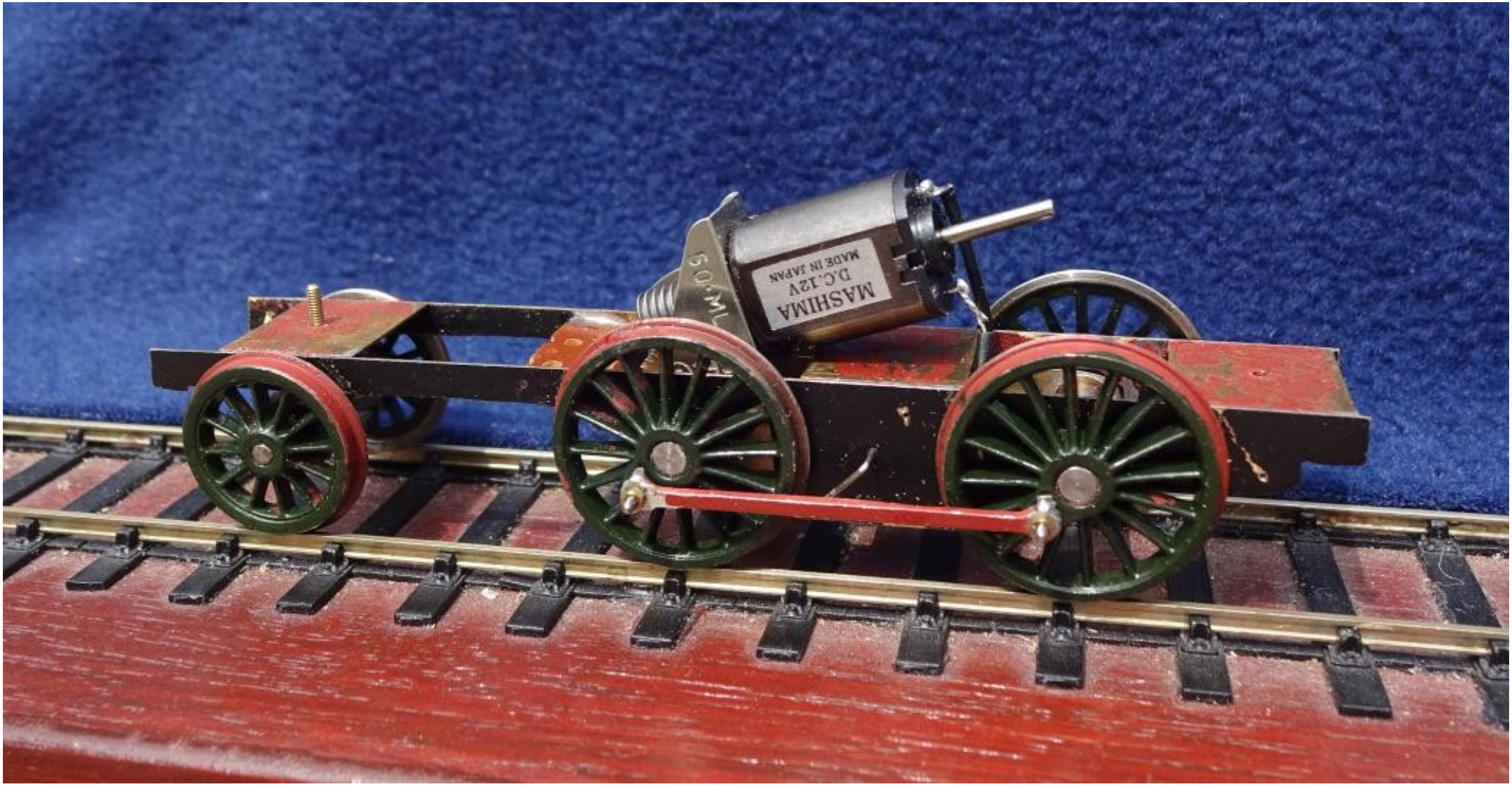
leading axle rocks on the 'roll axis' on a central pivot and the driving wheels are carried in a subframe that is pivoted at the mid point from both frames to provide movement in the 'pitch axis'. The compensation beams include the bearings for the driving axles so that there should be no variation in the distance between the crankpins as the driving wheels rise/fall. The arrangement is illustrated below.





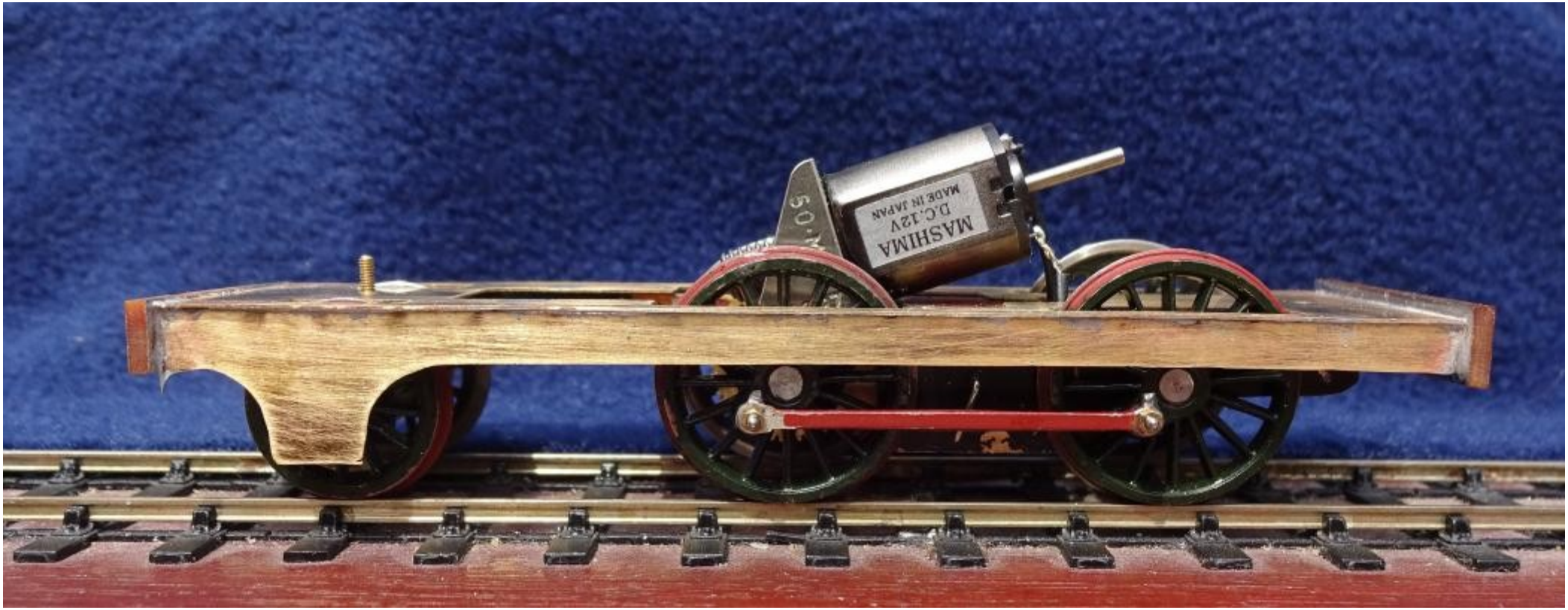
Confession time.
Having cut out the mainframes using the side view drawing, I had not given any thought to how I would mount the leading axle, which resulted in some improvisation – in this case with the aid of the radial truck from an EBM kit for an E3 tank - see above.
I prefer to give the frames a coat of primer and then plain black before putting on the wheels. I know that this paint will get knocked around a fair amount, but it is much easier to touch up than to try painting with the wheels on!

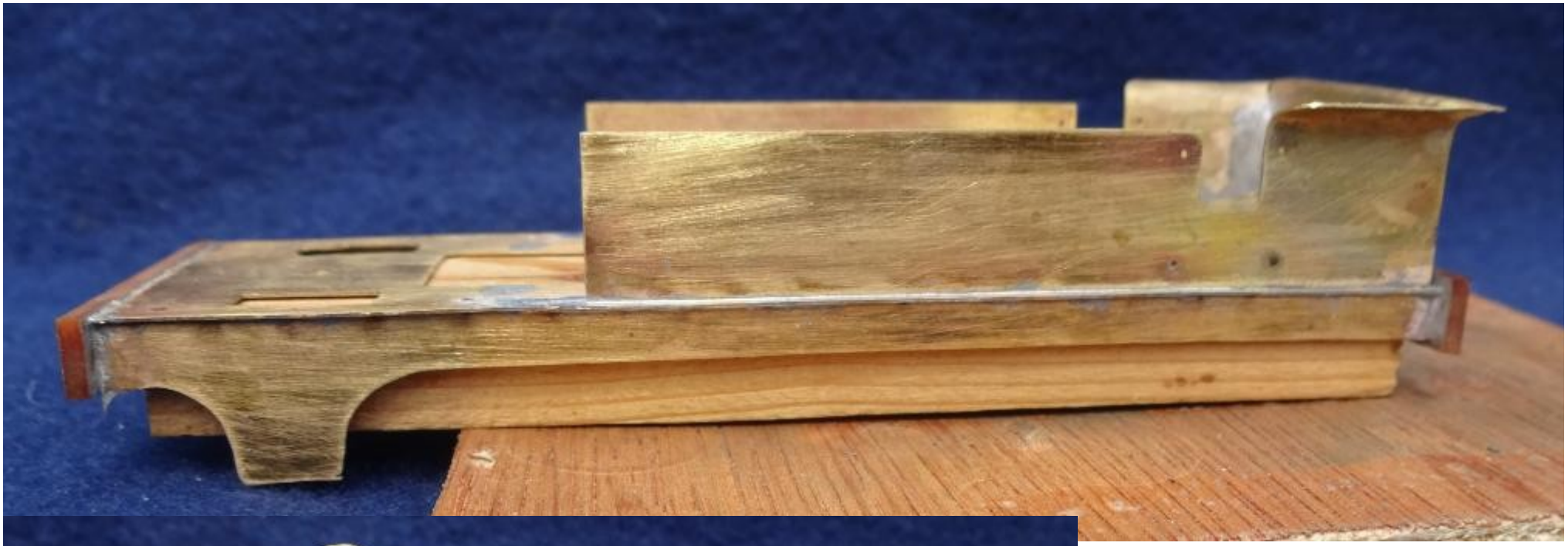
The wheel treads were masked before they are primed with red oxide and then painted with Brunswick green. Once on the axle, I prefer that they stay there, if at all possible.

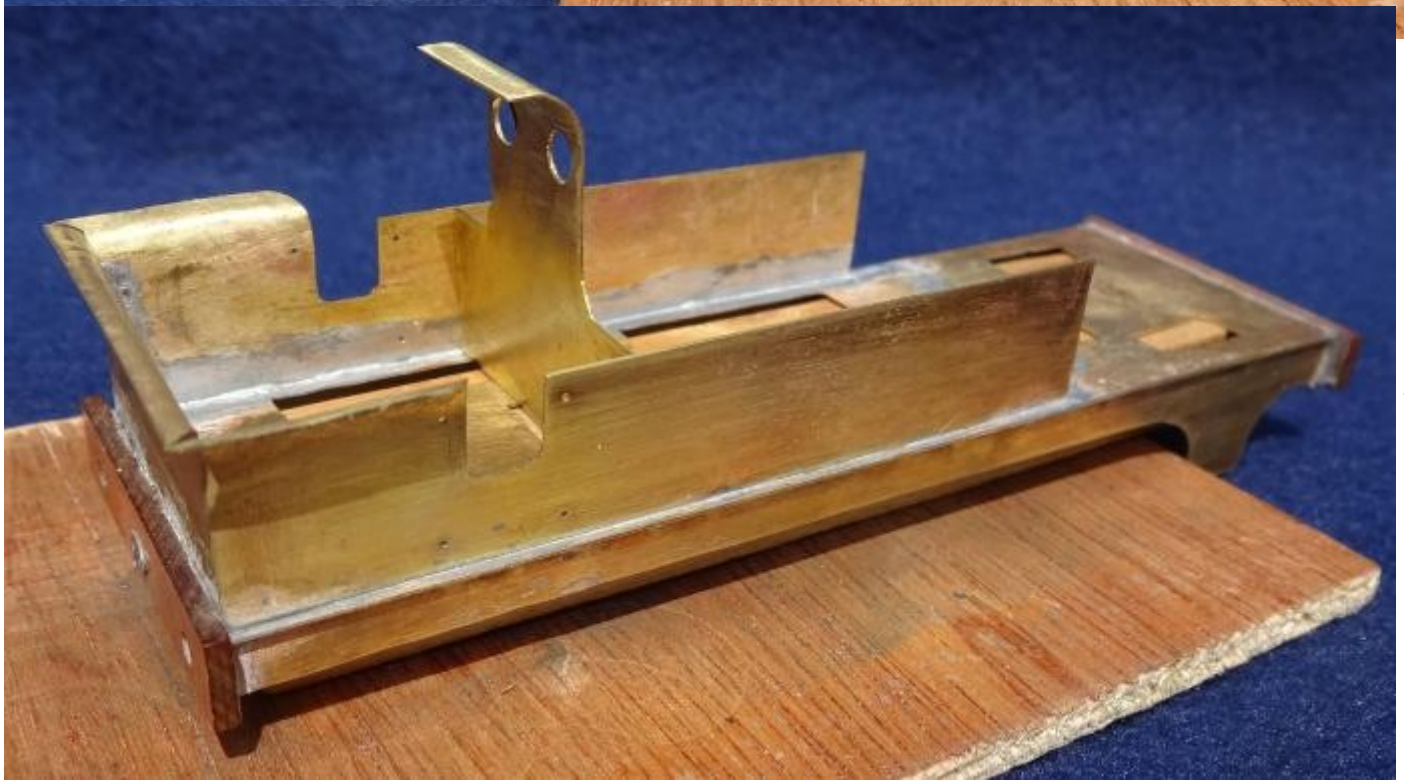


The footplate was fretted out (not very well) and the buffer beams were made up from PCB to give something like the right thickness. The rather curious deep valences were then added.

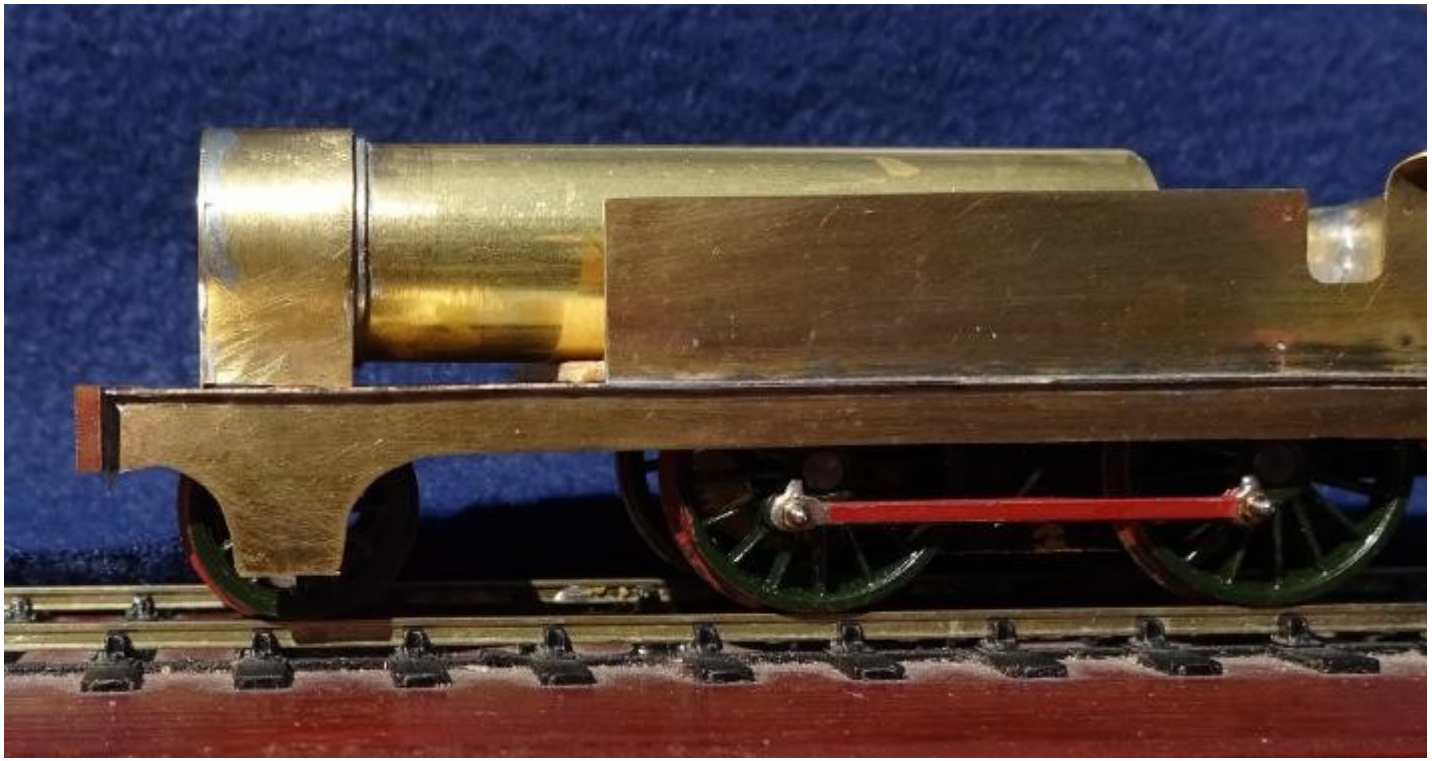
The combined footplate and chassis. It became evident that the rear drive shaft will have to come off. At this point I began to wonder whether a HighLevel gearbox might not have allowed rather more flexibility, rather than the Branchlines box that is shown here.







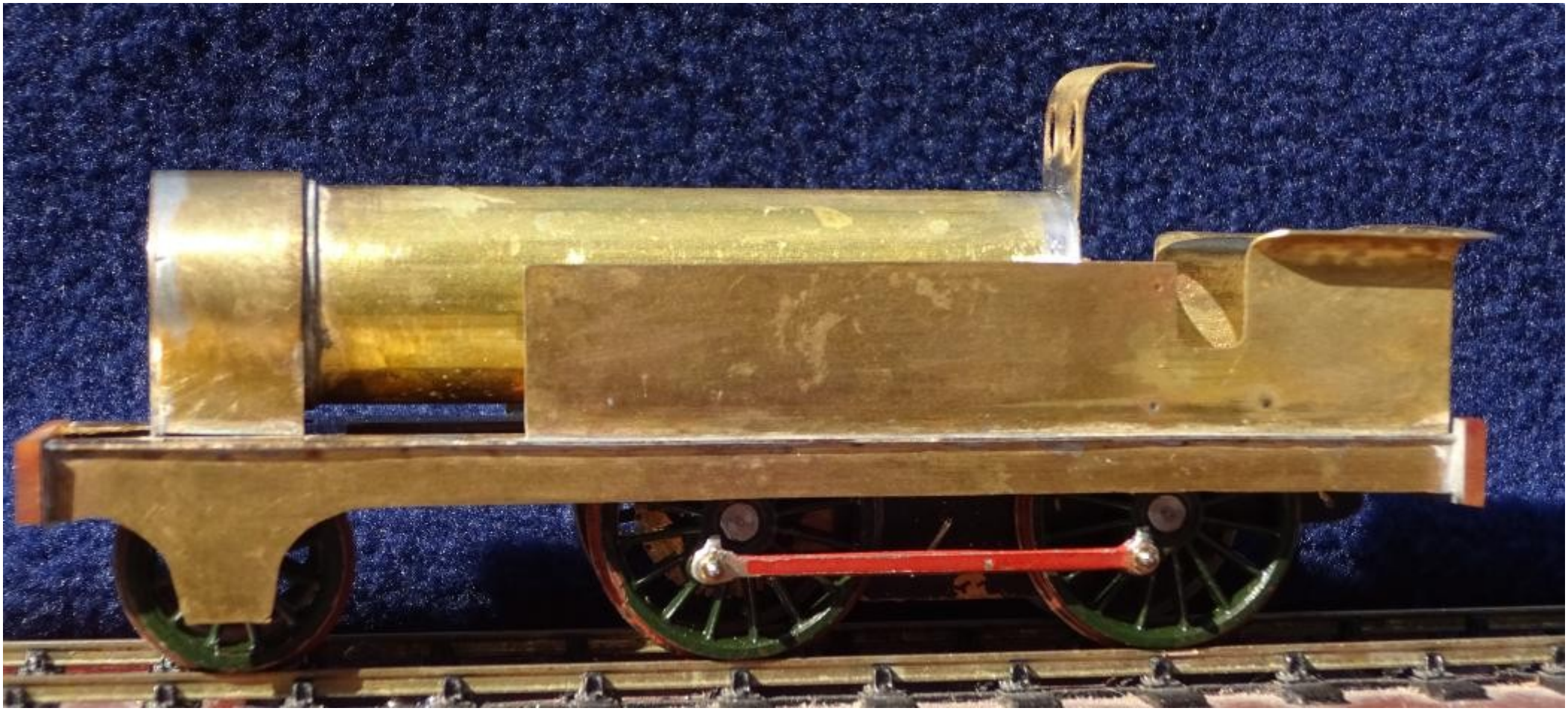
Side tanks/bunker sides now soldered – and the weatherboard plonked in place.



The smokebox, fabricated from two layers of wrapper, was soldered in place and a boiler front added. This came from one of the spare bits of the EBM E3 kit, which has enough alternative parts (to build West Brighton) so that you could build about 1¾ locos. I had been apprehensive about my ability to heat up quite a substantial chunk of metal but I discovered that my Maplin variable temperature iron on full power can put out 50W when it needs to. Mostly it never gets much above ½ power.

In bringing the boiler and footplate together, the key point was to align the front axle with the centre line of the smokebox. On the first attempt, it was not quite there.

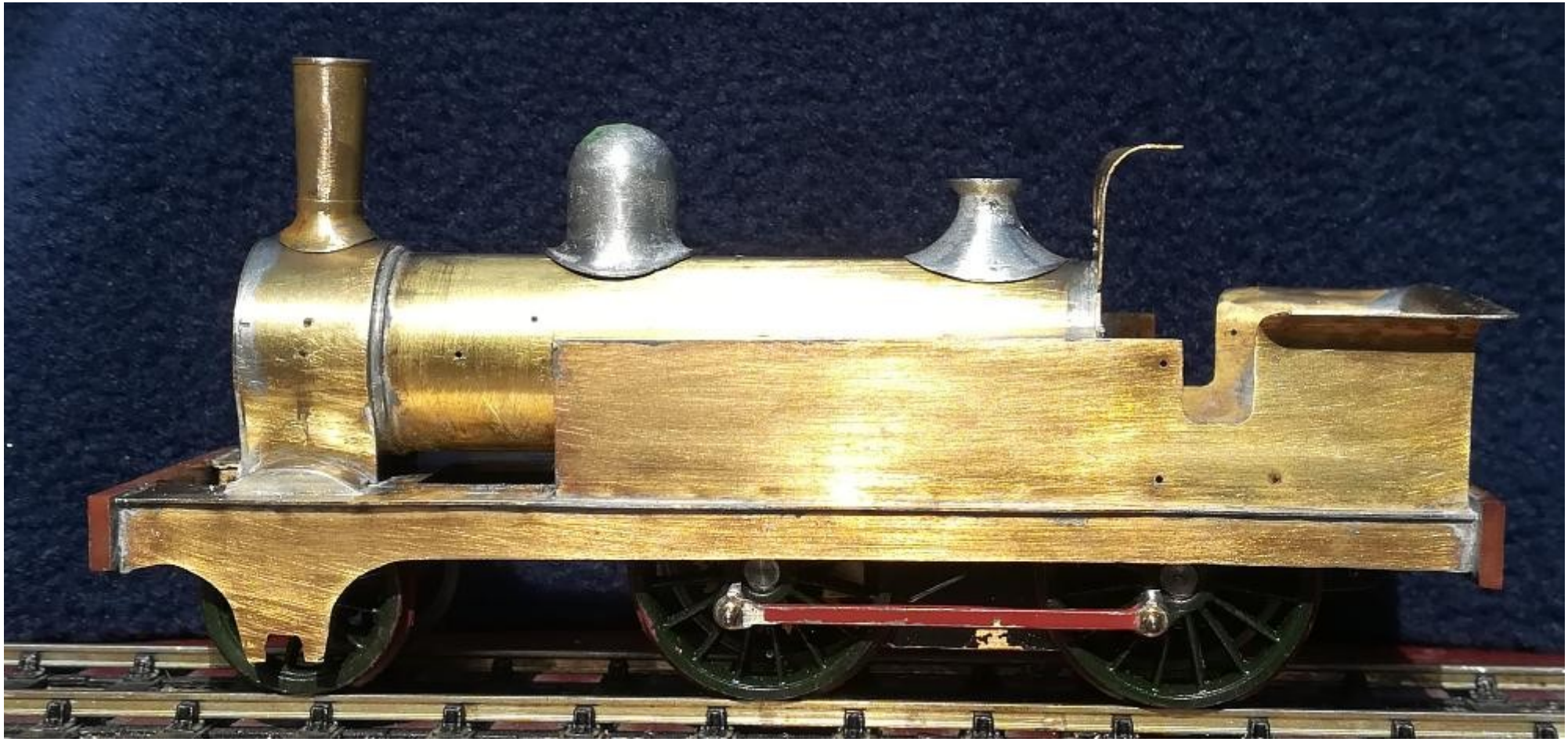
The second attempt involved re-sculpting the outside leading frame and shifting the boiler backwards a tiny bit.
It is hard to be sure in the absence of a photo, but my assumption is that there was an opening in the front of the footplate to provide access to the front of the cylinders. These are set above the leading axle at quite a steep angle and seem to extend slightly in front of the smokebox door. This opening needed to be lengthened to allow the boiler to be moved back slightly.
The overall effect reminds me of the Bavarian Baureihe 70 2-4-0 tanks, which have the same long gap between the leading axle and the driving wheels.

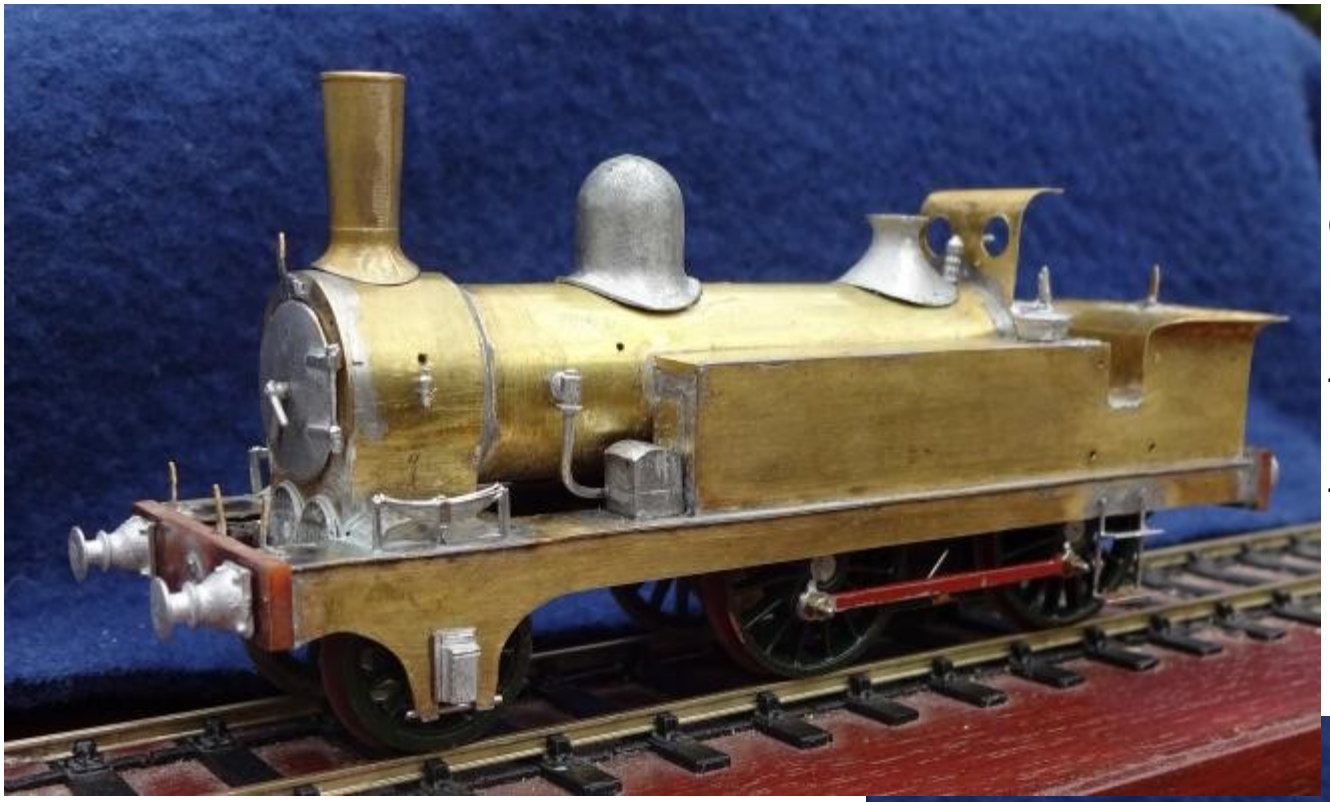


Sitting the boiler in place, coffee stirrers supported the boiler at the right height and helped to ensure an even gap between the boiler and the sidetanks on either side. Make sure that you pick up stirrers from a wide range of sources to maximise the range of thicknesses and widths!

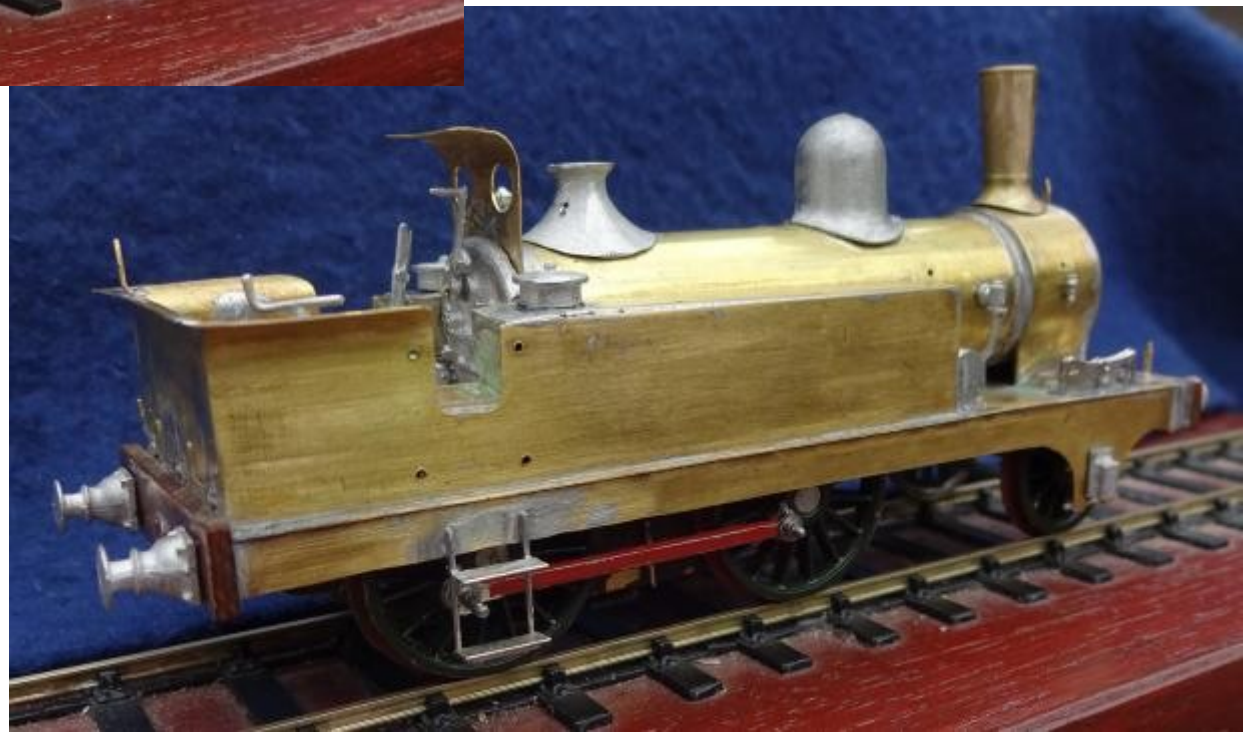
The heat on the soldering iron was turned up full again to get the boiler secured to the footplate at the front and to the weatherboard at the rear.

When you have got this far, it is hard to resist plonking the chimney, dome and safety valve casing in place, just to see how it would look. Compared to the drawing, the chimney is actually a little short. Visually, it looks about right. I cannot work out where the difference is.



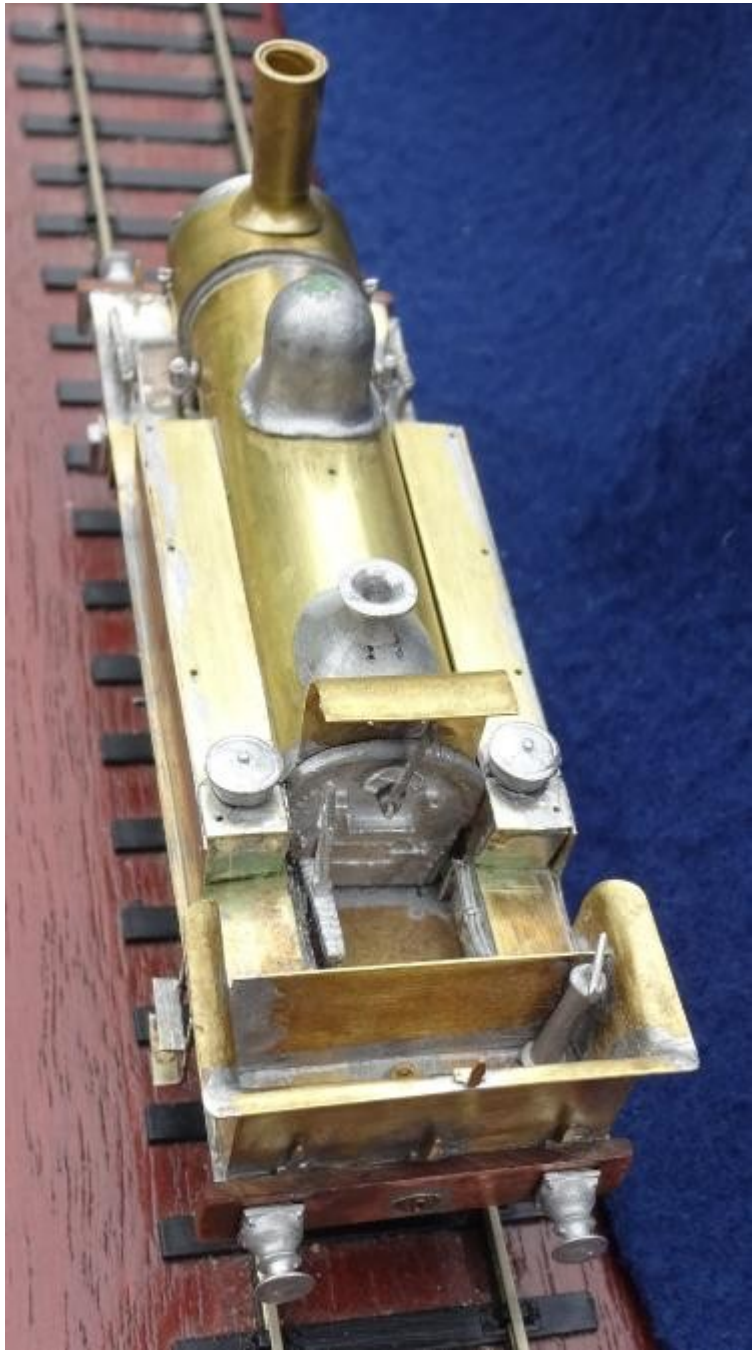


I am grateful to 5&9 Models for many of the castings and to various etched kit designers (in particular EBM and RT Models) both for useful pieces that were surplus to the original kit and for scrap etch in nice straight thin pieces. Never throw away bits of fret; you don't know when they will come in handy!



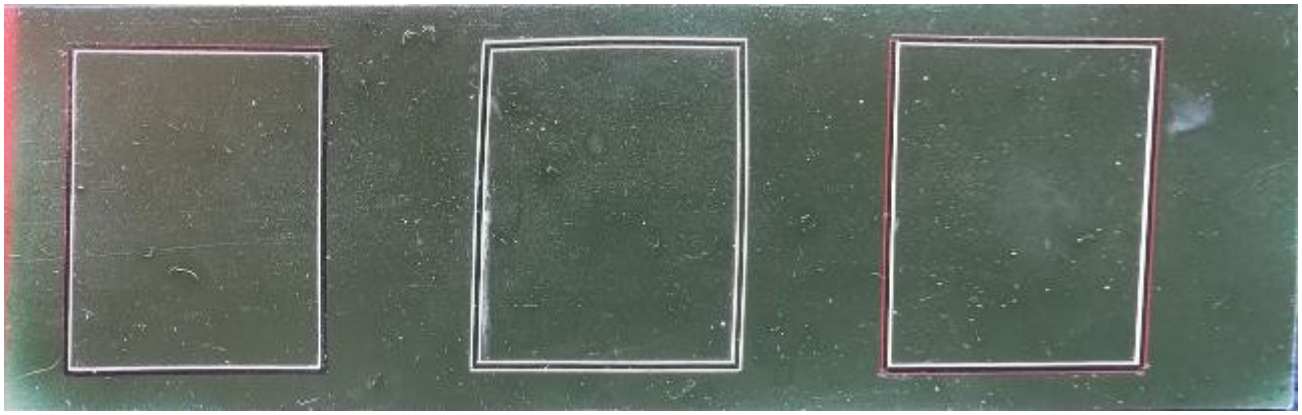
The footplate makes for an interesting work space. The splashers for the driving wheels sit across the entrance to the cab, so the crew would have had to climb over them to enter. This means that the available floor space on the footplate cannot be more than about 4' 6” wide (between the back to back of the driving wheels). However, you also need to take out the width of the springs, which align with the footplate entrance and there must have been a reversing lever in there somewhere. It must have made for a rather cramped space in which to swing a shovel! Curiously, the drawing does not show a reversing lever (there must have been one?) and it is not obvious whether the loco was left or right hand drive. I think the clues in the drawing suggest that the brake was on the right, so I have made it left hand drive, which was how Stroudley subsequently standardised.

The other odd omission is any way to fill the side tanks. Since the well tank was a later modification, I assume that there must have been fillers on top of the tanks. Looking at photos, other Craven side tanks had the filler close to the footplate and so I have added a simple tube with a wooden bung within reach of the footplate. It dawned on me while I was trying to work this one out, that the side tanks extended back behind the weatherboard and so I had to cobble up a short extension of the tanks into the cab, with the join conveniently hidden by the fillers.



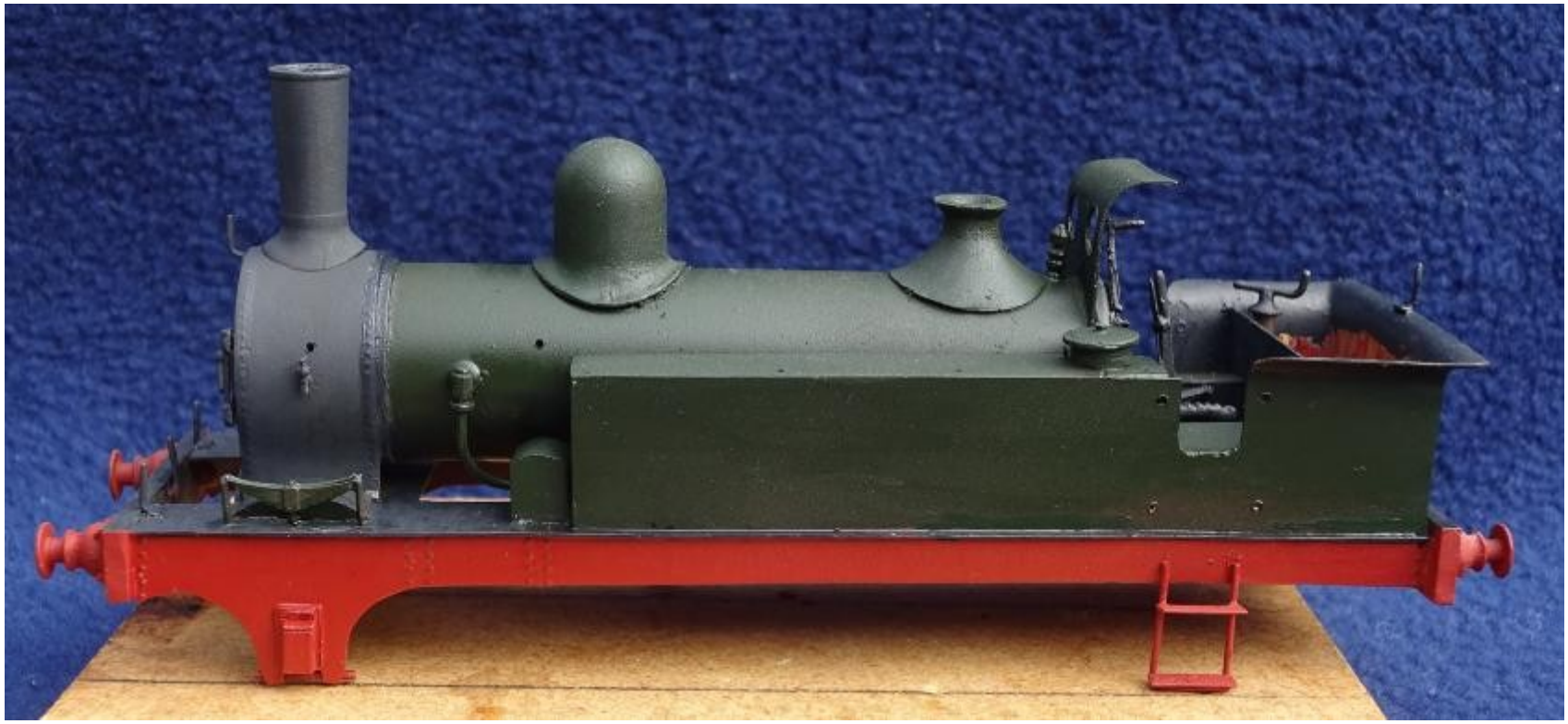
With an airbrush session looming, I wondered about the likely lining for the Craven livery and reached for Peter Wisdom's Southern Style

https://hmrs.org.uk/publications/books/books-in-print/southern-style-part-two-london-brighton-and-south-coast-railway.html



As I suspected, it is inconclusive (not surprisingly) and so I did a quick experiment on some scrap plasticard to try out three possible lining schemes.

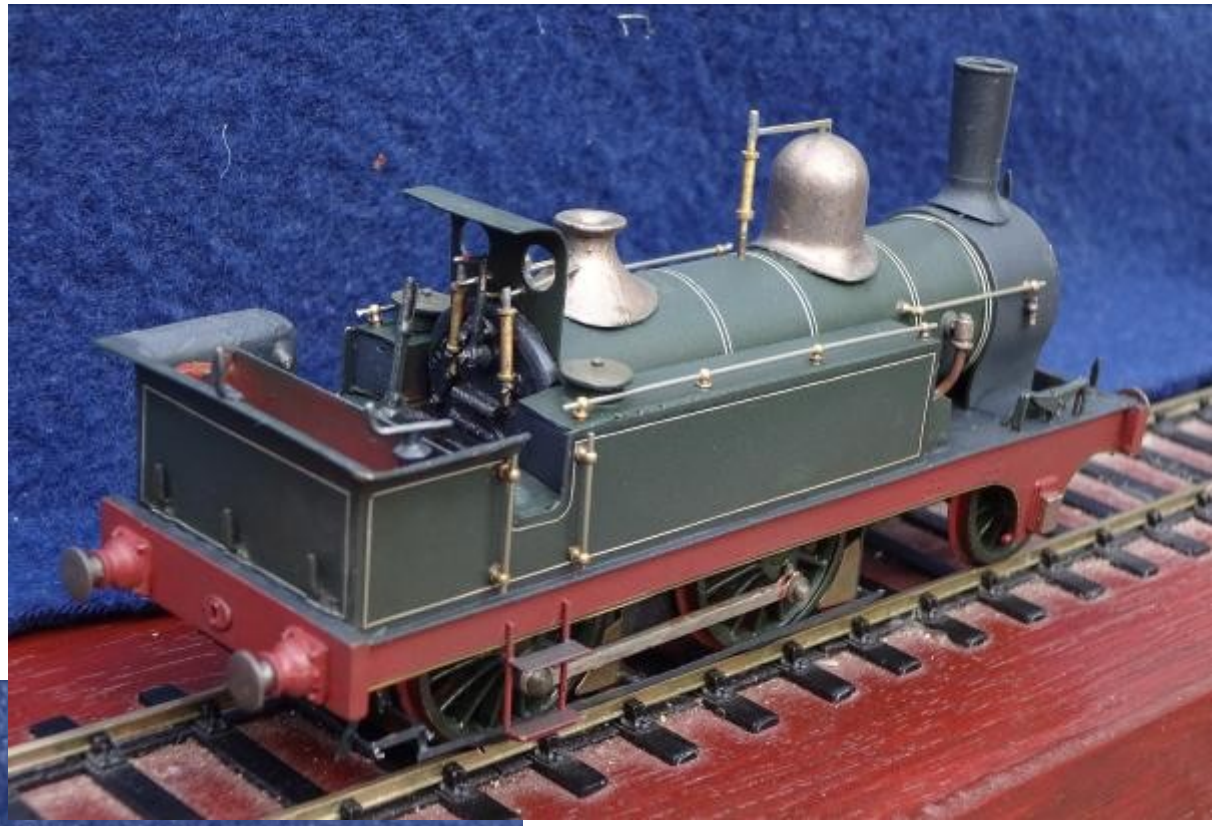
This shows the initial paintwork, with an overall spray of Holts red oxide primer and then Craven Brunswick green airbrushed on to the main body parts. The smokebox and footplate are brushed with Vallejo grey/black.



The answer for the lining is that the boiler bands are white/black/white and the lining is black/white, with the black on the outside and quite close to the edge of the panel.

When I showed a photo of this to Nicholas Pryor, so that he could see it while it was still clean, he suggested that a little yellow around the edge of the frames might just set it off nicely. He was right, of course, but I am no expert with a bow pen and the only yellow edging that I could find came off the Stroudley passenger lining transfers. Cutting the buffer bands off, so that they were red/black/yellow resulted in a very thin band, of which all that is really visible is the yellow. This photo shows the initial test piece with a straight section along the easy bit. However, cutting short straight sections, to match the curves in the valences, is both tedious and less than perfect. It did get done though!

Now with added handrails! Also with a very light dusting of “weathering”, which helps to reduce the visibility of a couple of minor blemishes in the paintwork. The weathering consists of MicroMatt, diluted with water and a bit of windscreen wash, plus brown for the undersurfaces and some added black for the top surfaces.

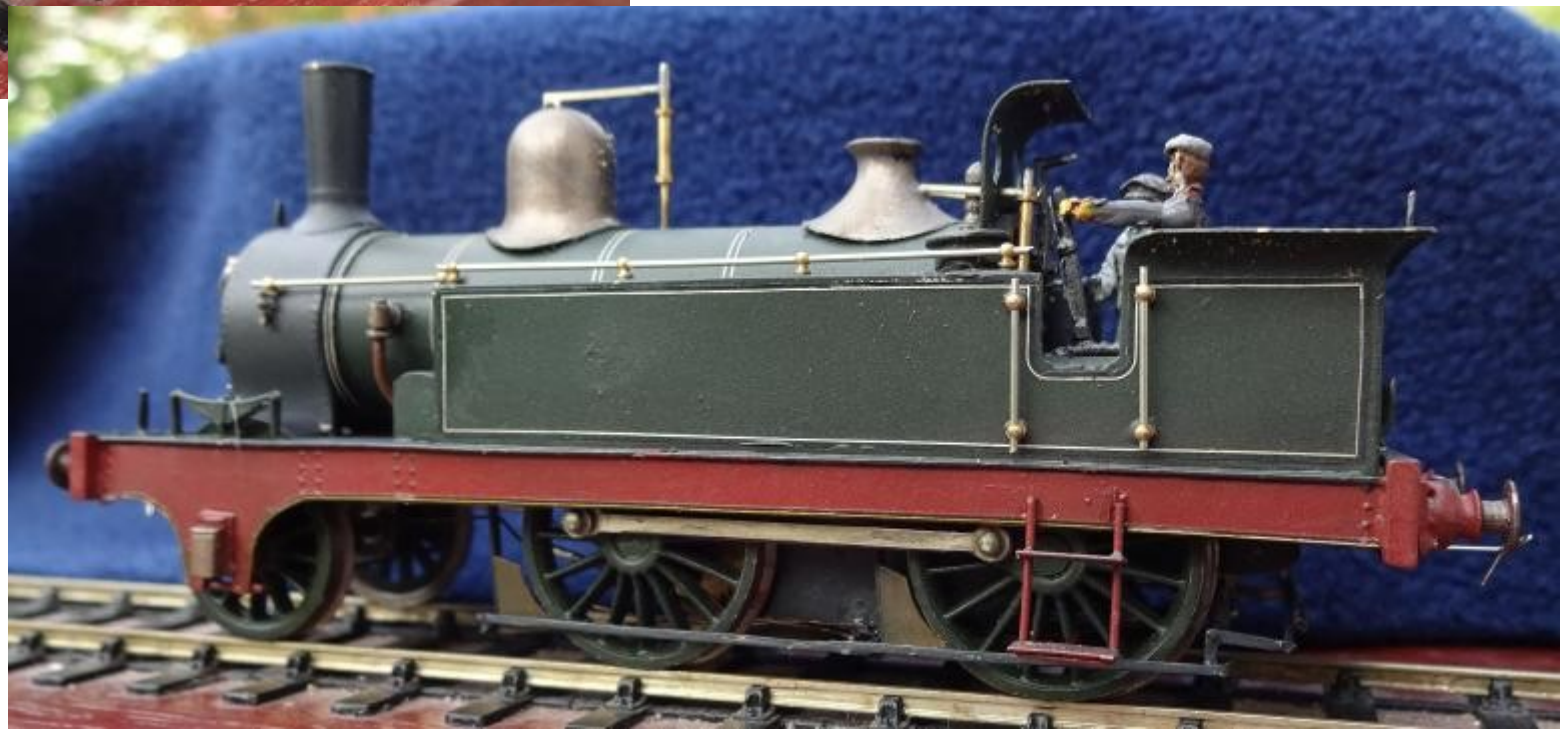


It is applied very lightly and the main effect is to create a slightly different texture so that there are different levels of glossiness (or lack of) in different areas.

Finally, with crew (the thinest ones that I could find) on board and the masking fluid removed from the tyres! Less visible are the lumps of lead in the boiler and sidetanks.

All the errors are my own!

I should still love to see a photo of the prototype, even if it were to prove that some of may assumptions have been wrong.



By way of contrast, No 170 together with the saddle tank, built from Ian White's scratchbuilder aids some years ago. They make an interesting contrast, not least because they entered traffic in the same month - December 1863. I imagine that the footplate of the saddle tank was rather more spacious – even if you did have to step over the trailing wheel spring to get in. On the other hand, I dare say that it had its own idiosyncrasies.

Lessons learned.

Take more care to get the boiler fittings to fit properly!

It would have been nice to put something in the gap under the boiler, which has too much fresh air. Some representation of the connecting rods and the slidebars should be possible.

It was not that much more difficult than building an etched kit. Fretting pieces out by hand is not very precise, but, so far I have been reluctant to invest the time in learning to use computer drawing packages, that would allow parts to be drawn and cut or etched more precisely.

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VB3 - Another bit of Brighton

- Alan Budgen

As a professional model maker, Alan described the construction of a 1:150 model of a Brighton prototype - in this case the Goldstone Ground of Brighton and Hove Albion!

A ‘Modern Image’ Brighton Loco Collection

by Tony Teague

Your Editor has kindly invited me to make this contribution, but having recently joined the Brighton Circle, I do so with some trepidation as I am neither a finescale modeller, an expert, nor a scratch builder, as will become apparent!

I model SR 1938 – 1948, and this article outlines the current state of my sub-project, - for which the goal is to secure a model of at least one representative of every locomotive class that the Southern Railway had in it’s fleet as at Nationalisation – so far as these relate to Brighton, ex-LB&SCR locomotives.

I chose as a reference for the project, Colin Boocock’s “Locomotive Compendium: Southern” pub. Ian Allan, 2010, ISBN 978 0 7110 3423 5, and this details some 25 distinct classes of ex-LB&SCR locomotives as being on the books as at 1948 and subsequently inherited by BR.

In terms of the overall (SR) goal, there are currently 12 unrepresented classes, and of these just 4 have LB&SCR origins, being B4X, C3, D3X and E5X – nevertheless I have identified solutions for each of the 12 and am slowly working towards filling the gaps.

So, perhaps I might start by summarising what has been achieved so far.

Despite the, perhaps prevalent, view that ‘everything’ is now available ready to run (RTR), I found that of the 25 ex-LB&SCR classes, only 5 have ever been available RTR, and just 3 of these are current; fortunately kits are or have been available for a further 14 classes, leaving just 6 for which there appeared to be no easy solution:

RTR	Kits		Not represented
A1X (Dapol, Hornby, Rails)	AIX (SEF) [also RTR]	E4 (Stenning) [also RTR]	B4X
E2 (Hornby / historic)	B4 (London Road, Ace)	E5 (SEF)	C3
E4 (OO Works, Bachmann)	C2 (DJH)	E6 (SEF)	D3X
H2 (Bachmann)	C2X (DJH, NuCast Ptns, Ace)	H1 (DJH, Ace)	E4X
I3 (OO Works)	D1 (SEF)	H2 (DJH, Ace) [also RTR]	E5X
	D3 (Chivers / defunct)	I3 (SEF) [also RTR]	E6X
	E1 (SEF)	J1 (Ace Products)	
	E1R (SEF)	J2 (Ace Products)	
	E2 (SEF) [also RTR]	K (Ace Products)	
	E3 (EB Models)		

For reasons which will be obvious, I started by acquiring the RTR models, followed by the kits – in fact I was a long way down the list of available kits before I first started to wonder whether my ‘project goal’ was even a possibility.

I will not trouble the reader with images of the RTR locos, but here are some of the kit-built locomotives now in the ‘operational fleet’; these were all built for me by Chris Phillips unless otherwise stated:

B4 No.2042 in lined olive, from a London Road Models kit

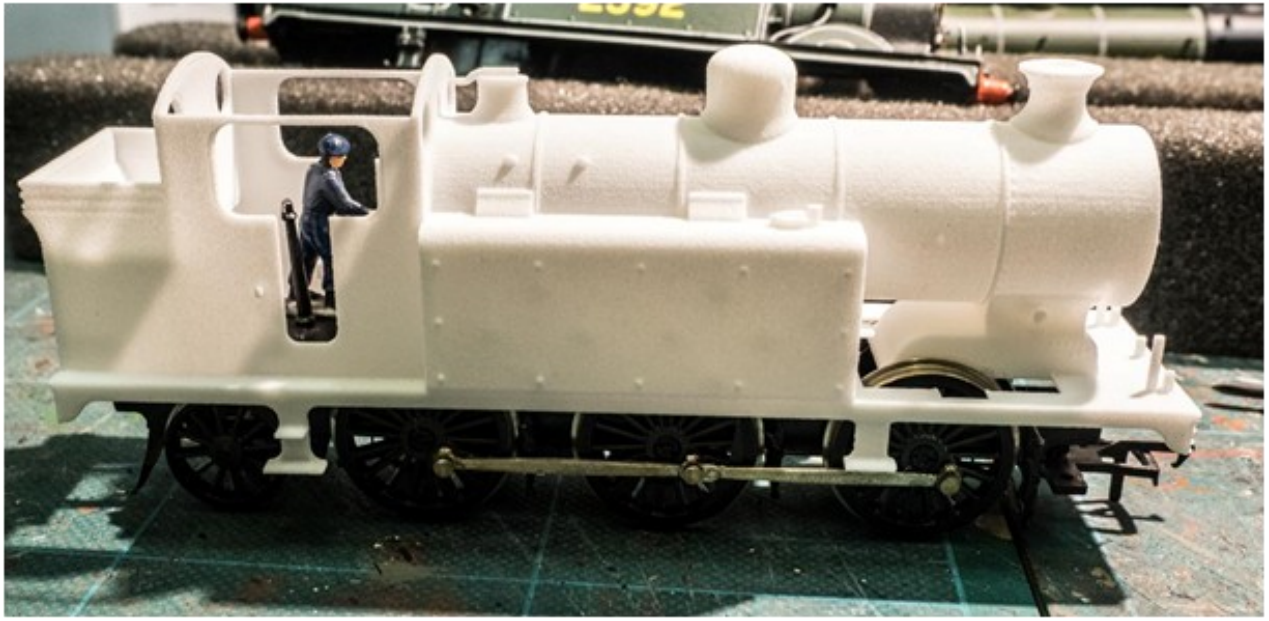
E1 No.2096, again in lined olive, from a South Eastern Finecast kit

D1 No.2252 from a South Eastern Finecast kit

E3 No.2167 from an EB Models kit

I will happily supply pictures of the other kit-built examples if wanted.

So turning to the “no-RTR/no-kit available” group, my first breakthrough came when I made contact with US based 3D print designer Javier Lopez who was developing a 3D printed body for an E5X in HO gauge. After discussion, he agreed to produce a 4mm version for me and I, in turn, helped him by verifying various dimensions. In due course I received the first print from Shapeways, but I was unhappy with the finish, which I felt was too rough:



Sanding down 3D printed models is a fairly tedious process which involves adding layers of filler primer and then cutting back, however, the models are printed in layers which run right through the plastic and so they cannot be completely removed, whilst surface detail can also be lost.

The first print did, however, allow Javier & I to sort out one or two errors, after which I ordered a further print in what was then Shapeways’ highest quality plastic:

It is fair to say that print lines are still visible on close examination, but I felt that the model would be acceptable at “normal viewing distance”.

I had built an SEF E5 chassis for the E5X, but our attention now turned to the E4X and I sent a Bachmann E4 body to Javier so that we could ensure that the printed E4X body would be a good fit to the E4 chassis. Here is the finished item; for reasons I can't explain, I completed this one but the E5X is still on the workbench!

And so to the E6X, for which I again, had built an SEF E6 chassis:

With the E4X and E6X all but complete, there are just four ex-LB&SCR loco classes remaining; this is the current state of play in my efforts to secure models of them:

• E5X - build STILL in hand; this is disgraceful as I have had the 3D printed body and SEF E5 chassis part built for 18 months! It is at the top of my to do list! Javier's 3D prints are available from his Shapeways shop, but note that in my personal view, only the highest grade plastic will produce a reasonable model :

https://www.shapeways.com/shops/caliper-s-paradise-models?section=LB%26SCR&s=

• C3 – I am being assisted in this by Arun Sharma who has completed CAD drawings for what will be etched parts, whilst the 3D design is in hand for the boiler, firebox etc which will be 3D printed and then produced as whitemetal castings, so as to form a 'kit of parts'; I have identified an experienced builder for this, as it will likely be more complex than for a full blown traditional kit. Anyone interested in securing a set of parts, once they become available, is welcome to contact me via tonyteague@btinternet.com

• D3X – I am exploring a potential solution through an intended 3D printed body, perhaps to utilise the chassis from an unbuilt Chivers D3 kit, which I have in stock.

• B4X – again, I am exploring a potential solution through a 3D printed body but this will probably be last on my list and is some way off.

I am always interested to understand how others have achieved some of these more obscure prototypes, and equally, any interest in joining me to find solutions for these last two models would be most welcome!
https://www.rmweb.co.uk/community/index.php?/topic/115550-churminster-stowe-magna-southern-railway/

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Rails Terrier Review - an addendum

by James Hilsdon

I read with interest Nicholas Pryor's assessment of the new OO gauge RTR Rails of Sheffield - Dapol Terrier, which was to my mind fair and balanced and captured the salient points. At the risk of being accused of blowing my own trumpet, as I had some involvement with that project, I wondered if readers of the *Digest* might be interested in the odd comment by way of an addendum.

The model in the form released reflects the fact that it derives from the Dapol O Gauge model. That was a very praiseworthy and well received model at the time of its release, and Rails no doubt saw it as providing a head start for a 4mm model. The 7mm model was quite limited in the variations offered, however, and, as it turned out, had one or two dimensional inaccuracies. The OO gauge model required significant extra work and shows considerable refinement of the original design.

The impetus for 'museum quality' models is very much something that results from Rails' aspirations in that direction and its decision to partner with the NRM. Within the commercial constraints of a project, I see that as a genuine aim on Rails' part and it is reflected if, I would say, not 100% realised, in the Terrier model. I was lucky (at times unlucky) to have some degree of involvement, and gained some insight into the effort that goes into a project such as this. As a result of some unsolicited feedback I'd offered on the Stirling Single, part way through the Terrier project Rails asked me to come on board and comment on the planned versions of the model. No doubt Rails would have been better off asking the Circle, but, they asked me and I did my best!

The initial A1 and A1X identities had been pre-selected by the manufacturer. On considering these, it was found it would be necessary to expand the tooling suite significantly if many of the choices were to be properly represented, while retaining the 7mm design as the basis. Rails, to

its credit, took the lead in accepting suggested additions to the tooling and I was both surprised and gratified by how many suggestions were accepted, particularly given the cost implications. There are some compromises, as dictated by cost, and, as Mr Pryor pointed out, these tend to favour the A1 over the A1X in most cases. To overcome the limitations of the 7mm versions, a number of additional tooling slides were necessary for the OO model. For the A1s, for instance, we needed, tank fronts without SR lubricators, longer rear tool boxes, and an A1 chassis that had iron brake shoes (for *Boxhill*), whereas the 7mm model had wooden shoes for all the A1s. We also introduced a cab rear sheet with a butt strip down the centre. None of this was catered for in the 7mm design. Rails has been diligent in pushing for improvements. While I wish the wheels had been diecast, the balance weights were amended from the O Gauge design and the spokes given the correct profile. The coupling rods were given their characteristic bow shape, something that had been omitted from the 7mm predecessor. There were many such refinements and changes.

Not all the changes could be justified, for instance, the A1s all feature the same later pattern of piping on the Westinghouse cylinders as the A1Xs. The original arrangement is shown clearly in a Binnie drawing, so the information was available, however, not only would this have necessitated a new part, but the fixing point on the cab would have differed, and this would have meant tooling for an additional cab. We next had to ensure that the tooling suite could cover adequately the various individual identities, which included some sold-out-of-service examples. Again, most significant features were ultimately catered for, but not every, often unique, variation could be tooled for. Had more been attempted, the model would have been pushed to an unacceptably high price point. While a sense of value is often subjective, some modellers can lack realism in this regard. If, for instance, you want an A1 with the correct cab rear sheet and the correct length tool box, it will cost more than a model that does not cater for this, even were the overall spec of the model not higher.

Overall the model is dimensionally very accurate. There were a couple of issues inherited from the O Gauge model, however, and the root cause of these was traced back to an over-reliance

upon the Maskelyne drawing. In my humble opinion, if you are going to have reference to a 'modeller's drawing' for the Terrier, Binnie is by far the better bet. Whenever the NRM took a measurement from their *Boxhill*, it matched the Binnie drawing. Maskelyne was, I suspect, not above 'improving' the appearance of the original. None of this was appreciated until the tools had been cut. One result was the need to re-tool for cab spectacles in the correct place, as Maskelyne, and, therefore, the O Gauge design, set them too far apart. Another A1-specific feature was a smokebox door where the hinge strapping is different from later condition examples.

One can see this, for instance, by comparing the Rails and the Hornby A1 'faces'. Maskelyne, however, did not get the position of the strapping quite right. When this was pointed out, the tooling was amended. The one that 'got away' is the A1 dome position. Maskelyne has this very slightly off the centre line of the dome filler caps and central tank cladding bolt. Binnie, in my view, is again to be preferred. I think Stroudley would have followed the centre line exactly, I can see the old man settling for nothing less.

Turning to 643, I was delighted when this was added to the range and it is a firm favourite of mine. The livery is based upon the O

Gauge artwork. Commensurate with the early umber livery, I argued for the rods to be painted black, not left bare steel, and I also asked that the axles ends should be black. A third refinement, black under the yellow valance lining and outside the step lining, was just not practical. It is appreciated that the Westinghouse cylinders should be lined, but that was not technically possible by tampo-pad printing. It is also appreciated that the bunker-side numbers were on plates, but, like the brass number plates on *Boxhill*, and the sandbox plates, these are printed due to cost constraints.

All in all, while not the definitive representation of the class, I feel the model has come out well. It benefits from a high specification and the most extensive tooling suite we have yet seen for this class in any scale. There are many little joys to discover on this model. I like the etched guard irons and wing plates, the turned whistle and feed valves, the subtleness of the cab-roof rivets and the nicely observed Salter spring valves. These features help to give this portrait of the Terrier a unique refinement and scale appearance that I have not seen before. I hope people enjoy it.

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4mm Terriers

Locomotion

The Locomotion Models version of the Terrier is now available. Boxhill, in Improved Engine Green, is modelled as preserved and priced at £110 DCC ready.

[LBSCR Terrier Boxhill DCC Ready at Locomotionmodels.com]

Locomotion
Shildon
County Durham
DL4 2RE

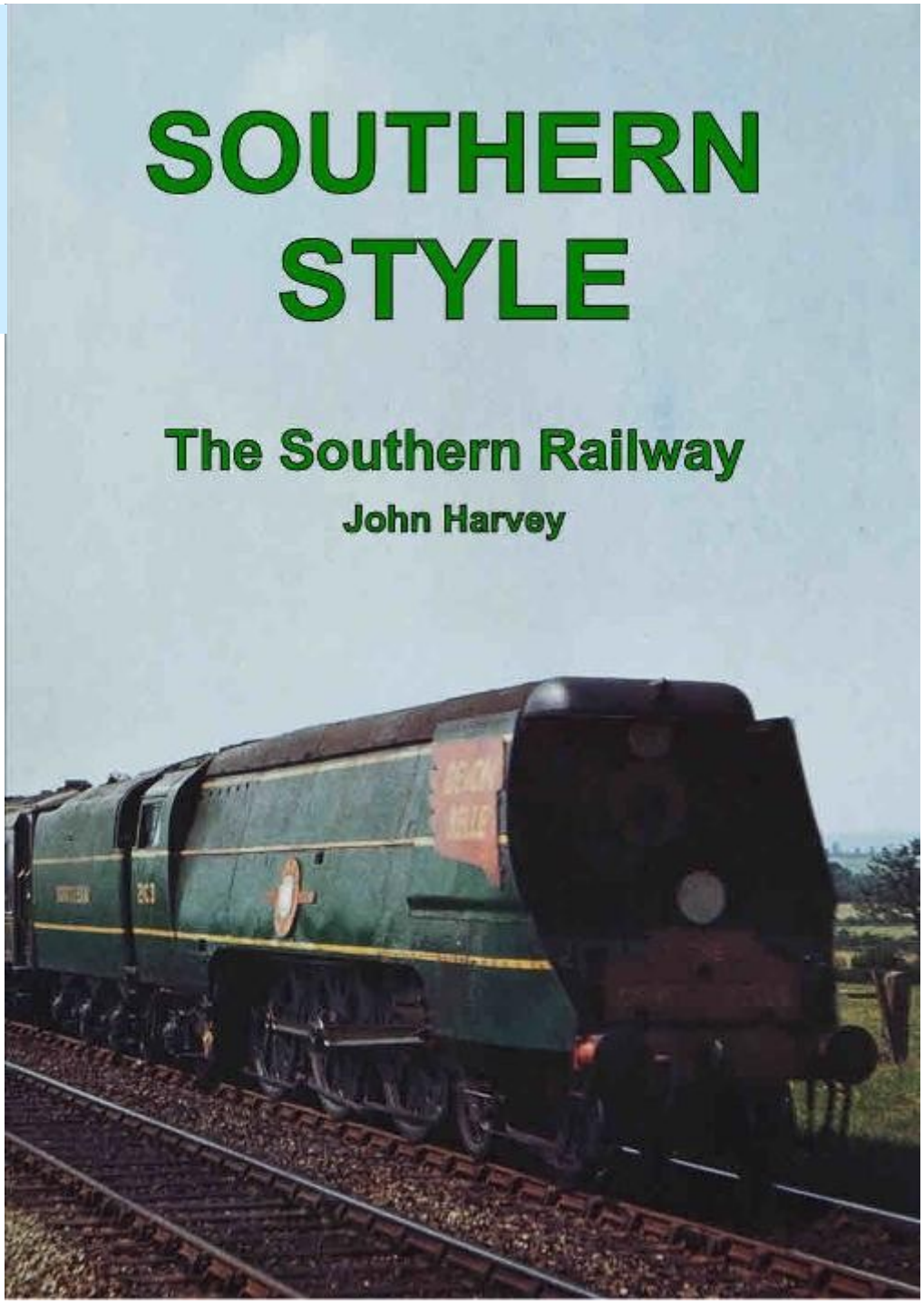
Tel: Locomotion Models 01904 685785

Southern Style Part 4

HMRS Southern Style Part 4, The Southern Railway, (ISBN 978 0 902835 37 5) has just been published, following on from Part 1 L&SWR, Part 2 LB&SCR and Part 5 BR (SR) 1948 to 1964.

Part 3 SECR, which is scheduled to follow by 2023, is being prepared by members of the SECR society.

Part 4 takes up the story from 1922 and charts the development of ex LB&SCR liveries through this period on everything from, locomotives to carriages, wagons to buildings and infrastructure. The book costs £35 (£25 to HMRS members) and is available on the HMRS website and at the HMRS Museum and Study Center at Butterley DE5 3QZ.
If HMRS members are registered and logged in to the website they will get their discount online.



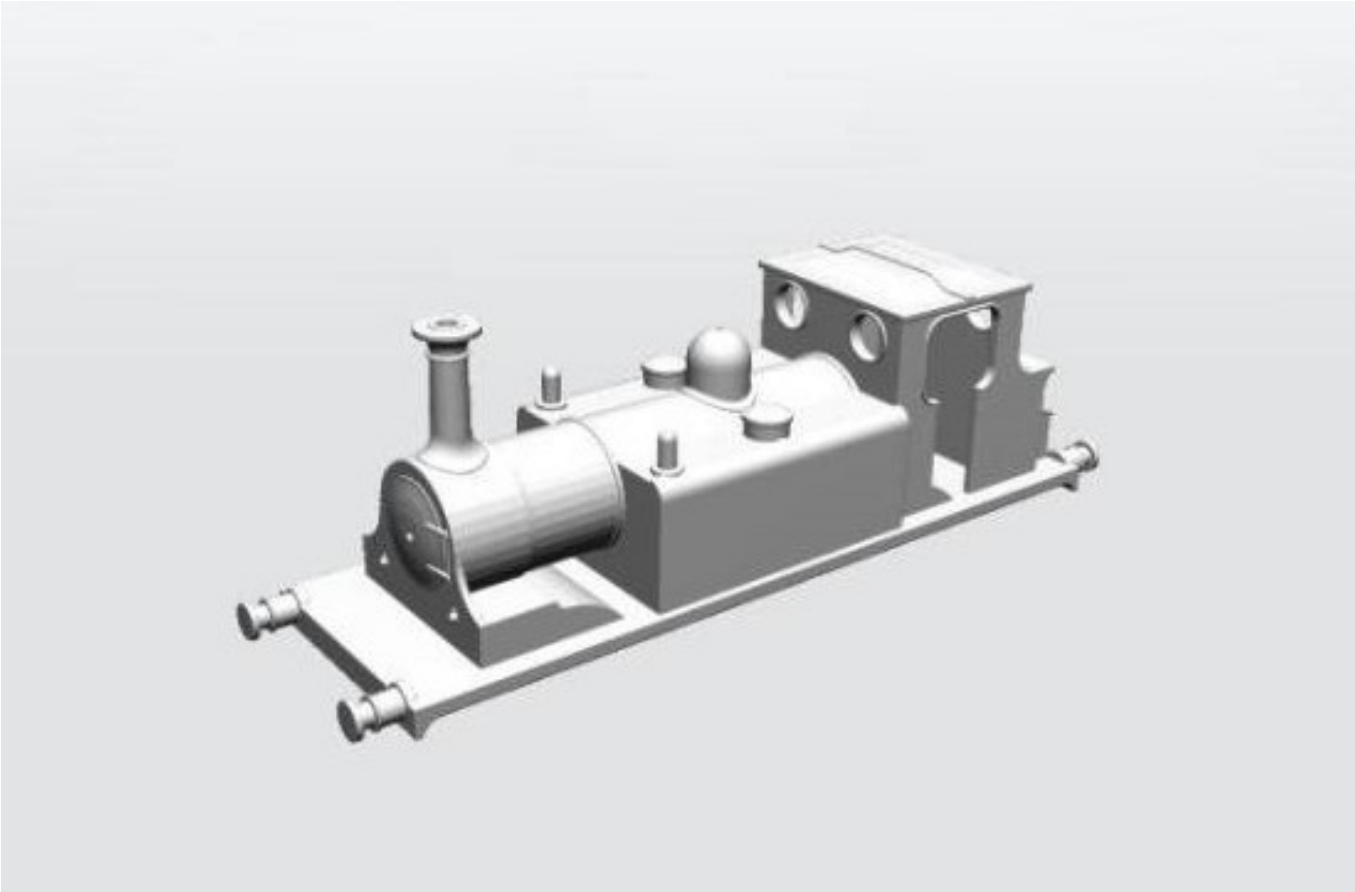
Terrier and E tank in 3mm scale

Killian Keane

Killian has now released a 3D printed body shell for a Terrier and an E tank in 3mm scale.

Details of the Terrier, which is priced at £26-65, are at

https://www.shapeways.com/product/LMXDYS2EB/lb-scr-a1-terrier-3mm-scale



Open A in 7mm scale

Smallbrook Studio

Photograph copyright Smallbrook Studio

Smallbrook studio has recently released a 7mm scale Open A, priced at £33.

The wagon is vacuum cast in polyurethane resin with the single chassis and axle box casting in a tough, bearing grade material.

Contact

smallbrookstudio@gmail.com

4mm H2 Atlantic

Bachmann

Bachmann has announced the new LB&SCR H2 Atlantic No. 422 in LB&SCR Umber livery.

The model is ready to accept a speaker and has a 21 Pin DCC Decoder socket for those wishing to equip their model for use on DCC. Priced at £229-95, but also available with sound fitted at £319-95.

D1 and D3 in 7mm scale

ACE Models

Ace Products is able to produce a short run in 7mm scale of kits for the D1 0-4-2 and D3 0-4-4 tanks in 7mm scale.

These are available priced at £179 for the D1 and £199 for the D3.

Contact Us (aceproducts.org)

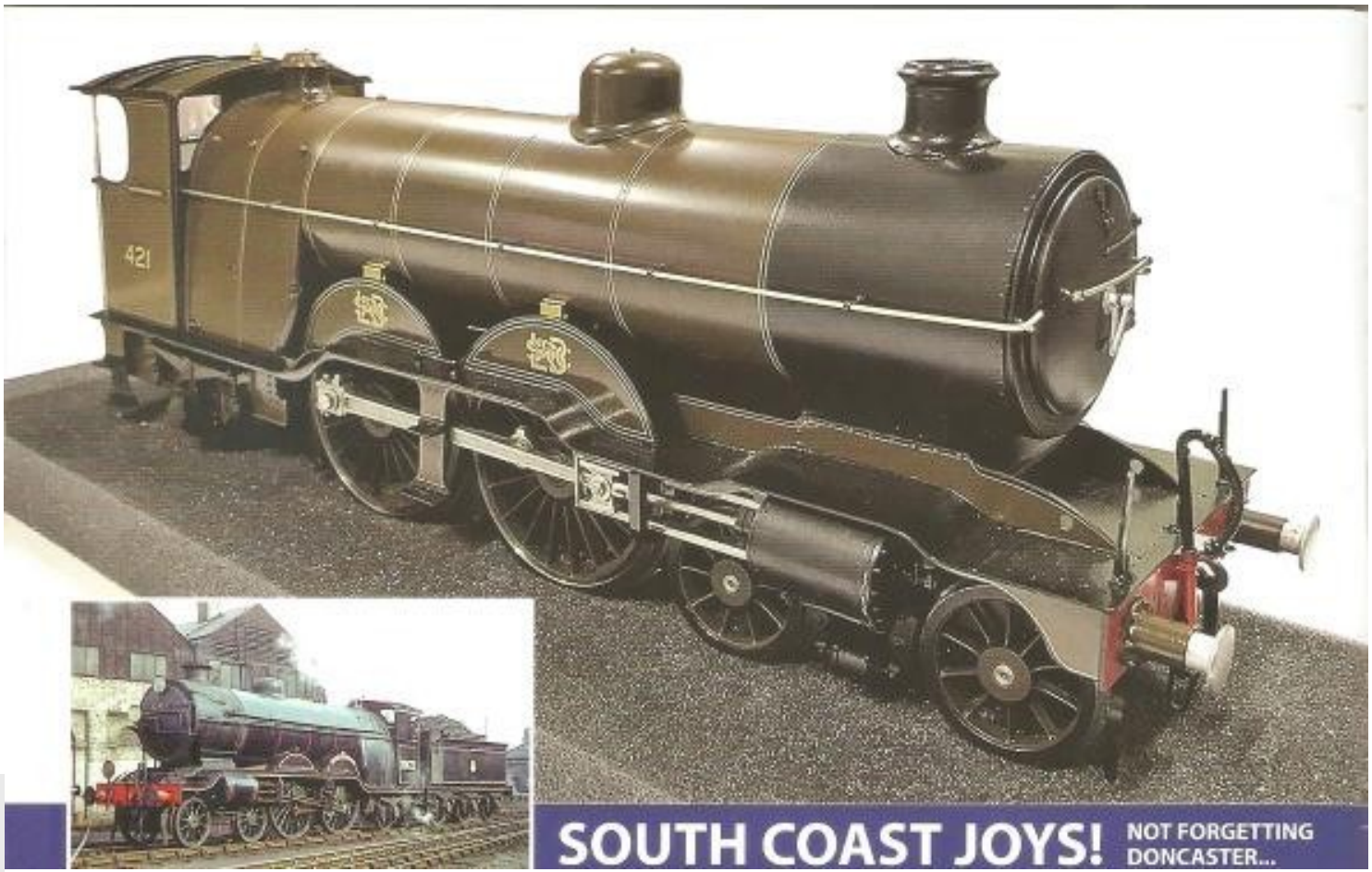
Atlantic in 7mm scale

Masterpiece Models

Masterpiece Models are now proceeding with the production of the two versions of Brighton Atlantic in 7mm scale. 25 will be produced as H1s and 30 as H2s.

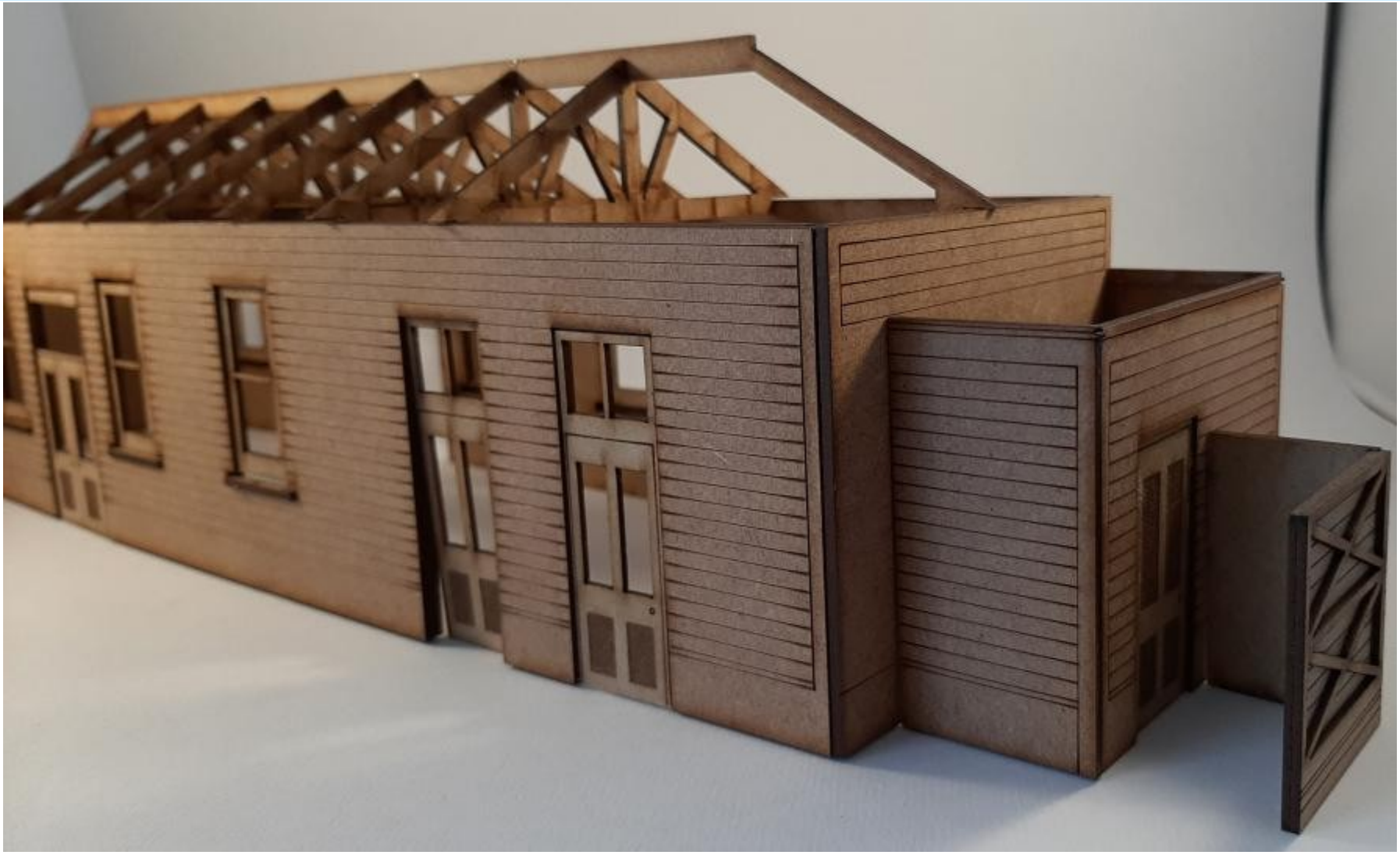
Price will be £3,250 with delivery planned before the end of 2021.

[Contact Us (masterpiecemodels.co.uk)]



Fittleworth station

Rail Model



andy@railmodel.co.uk
Telephone: 01752 567791
Address:
138 Saltash Road
Keyham
Plymouth
Devon
PL2 2BE

Coming shortly, a laser cut kit for a model of Fittleworth station from

[Rail Model Laser Cut Model Railway Kits]

7mm kit for sale

Gladiator kit for an H2 Atlantic, complete with appropriate wheels, £480.00. Purchased November 2018, but I can't run it on my own layout and have no great desire to build it for the sake of it!
Contact Peter Wisdom,

peter.wisdom.wisdom@btinternet.com

01273 564422

4mm stock for sale

Newhaven Model Railway Club has a range of LBSC models to sell.

OO gauge LBSCR Push-Pull Driving Composite No 630 from Roxey Moulding kit 4C44. Exceptional paint finish, other photos available upon enquiry, open to offers.

LBSCR Push-Pull Driving Composite No 634 from Roxey Moulding kit 4C44. Exceptional paint finish, open to offers.

Set of 4 6 wheeled carriages

All have Gibson wheels with the the flange removed from the centre set and an outer axle with a pivoted W-Iron.

1 off LBSCR 32' LAV Comp Branchlines 4.49 with S&W 4mm couplings - one buffer head slightly bent

3 off LBSCR 30' 6W 5 compartment 3rd Branchlines 4.36?

These have no couplings

One coach has a buffer missing

One coach needs the position of a door grab repositioning and a door grab has not been added but it is provided

One coach has the running foot board missing

One coach needs the position of one running board to be reset

There is a minimum price but open to offers.

OO Southern Railway I3 4-4-2T, made from a SEF kit, Romford wheels, RG4 motor, professionally made by Graham Varley.

There are also a range of kits from Roxey, Branchlines, Blacksmiths, PC and Mallard which will appear on the Newhaven and District Model Railway Club website. Alternatively, please contact Charlie Bloomfield at ndmrcstore@gmail.com.

The Brighton Circle

The Brighton Circle is the Historical Society of the London, Brighton and South Coast Railway (L.B & S.C.R.). It is dedicated to the research and publication of information about the company and it produces a quarterly journal entitled the Brighton Circular.

While the Circle is primarily focussed on railway historical research, there has been an important interaction with preservationists, particularly on the Bluebell Railway, and with railway modellers. The Bluebell line provides an important source of original artefacts, which contribute valuable information about the company's practice. Modellers have benefitted by access to data about the physical appearance of the company and its operations and, as a result, members of the Circle have been able to produce scratch builder aids, kits, paint and lettering on a limited run basis, which are made available among other members.

Membership of the Brighton Circle for 2021 is

£18.00 for full membership

Applications should be sent to

The Secretary, Nicholas Pryor

nicholaspryor@sotheby-road.co.uk

The Circle is also in contact with local historians, industrial archaeologists, family historians and other groups whose interests intersect with those of the Circle.

THE BRIGHTON CIRCLE

dedicated to the furtherance and publication of original research into the history of the London, Brighton & South Coast Railway

MEMBERSHIP APPLICATION FORM

I wish to apply for membership of the Brighton Circle.

Please use block capitals in completing this form

FIRST NAME..... **SURNAME**……

ADDRESS.....

……POSTCODE ……

EMAIL ADDRESS.....

What are your interests in the LB&SCR? Are you a modeller? If so, please give details.

PRIVACY STATEMENT

The personal information provided above will be stored on a computer database of members' details and used for administration purposes by the Circle's appointed representatives. By signing this form, you indicate that you agree to give the Circle permission to use your personal information for membership purposes, to communicate with you as a Circle member and to send you general information about the Circle.

You can request that your data not be used for any of these purposes at any time by contacting the Membership Secretary at the above address or by email: nicholaspryor@sotheby-road.co.uk

Please enclose a cheque for £18.00 to cover twelve months membership/ £9 to cover six months membership (if joining after June 30th) of the Circle for the current calendar year. Cheques should be payable to '**The Brighton Circle**'.

Please send this form and your cheque to the Membership Secretary at:

Nicholas Pryor, 19 Sotheby Road, LONDON N5 2UP

Alternatively, complete and sign this form and send a copy by email to the Membership Secretary at nicholaspryor@sotheby-road.co.uk who will contact you to arrange payment of your membership fee, either online or via PayPal.

SIGNED.....**DATE**.....

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