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

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

Issue 8

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Editorial

My thanks again to all those who have documented their LBSCR modelling to keep the content of the Digest varied in scope, scale and technique.

In Ready to Run, we have the first sightings of Bachmann Atlantics, which cover both the original Marsh H1 design, and also the later H2 batch modified by Lawson Billinton. No doubt the full range of liveries will become available for both designs in due course.

In 3D printed, laser cut and virtual designs, there is a new generation of modellers, for whom a computer is a natural modelling medium. This is creating some exciting new opportunities for the rest of us, as evermore exotic prototypes can be modelled. For those working on such designs, please consult the Brighton Circle as there is a vast resource of prototype data that can be accessed.

By no means least, there is a continuing development of more familiar technologies like white-metal and etched brass in which new models are being released (let us not forget that 40 years ago, etched brass was pretty cutting edge, using hand drawn designs).

I find it exciting that the demands of a small niche market like ours result in this kind of innovation and diversity.

Eric Gates

Modelling Steward, The Brighton Circle

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Belgravia Underhung Springs

Mike Waldron

From the outset of designing the EBM Belgravia kit, I encountered many problems. The first was to understand how to synchronise the cab sides and splashers, as it was not at all obvious how they would relate. Only when I looked at a couple of photos of Kensington in storage, pending scrapping, did I understand what was needed.

As if that was not enough, I pondered how to produce the unusual motion plate and its weighshaft weight. It was not solved until I split it into two and attached the upper part to the bodywork, and the lower half to the chassis.

The next issue was to understand the relationship of the inside and outside frames. Chassis frames are not a worry, but how to get the necessary rivet detail? Eventually I decided upon half etched overlays - with all the potential inherent problems of soldering long pieces together.

The next problem was how to portray the variety of rivets and lower frames for the tender. Again, overlays were the answer in both cases.

The three major difficulties that next surfaced were - the tender front handrails, the platform-mounted leading and tender springs and underhung coiled wheel springs. The problem with the tender front handrails surfaced after the kit was finished and was actually discovered by Eric Gates when he built the Dieppe kit - which was very much derived, in terms of technique, from this kit and Sussex. Dieppe was reverse-engineered from Sussex, and Sussex was developed from Belgravia - unsurprisingly, as they were all very much from the same source - Stephenson

singles. The solution was to build the body separately from the lower frames and platform - leaving the handrails flailing in space until final assembly.

The springs required front and back vertical supports, and a central one halfway between them in both directions. The only solution was to fold 3-part layers, with two support legs on the front and rear layers and the central push rod on the middle one.

The final headache of how to deal with the underhung springs, I freely confess, I was quietly leaving to the builder to try and solve! The problem is that if you mount the springs permanently under the outside cranks, you will trap the entire chassis in place, and not be able to drop it out without disassembling (possibly unsoldering) the springs - highly undesirable.

Quite fairly, the problem came back to bite me when I was asked to build one! I had mine part-built on the workbench, along with my test build of Sussex (still as was since 2004 - the year they were produced!). And, with it, returned the ten year old unsolved problem! Justice was served!

I settled down and spent hours and hours musing over the possible solution. Should it be a clip arrangement? Or a pair of piercing saw cuts in the outside frame with wedge-shaped Spring tops?

Neither idea really turned out to be feasible - mainly because of the lack of space. I had an idea about using a sprung wire attachment to pass up into tubes behind the frames - but again, there was not enough space.

Finally, I plundered my Albion Alloys clear plastic tubes of brass and nickel silver microbore telescopic fitting tubes. I suddenly realised that with these tiny tubes, I could solder them to the outside frames actually where they should be! Then the idea of squashing the tube to look like the proper fitting … and mount a wire ‘bow’ behind the thickened springs, with the secret securing method - a slight kink in the wire to spring slightly and jam the wire in the tube. Success!!! Finally!! After ten years of ignoring it!

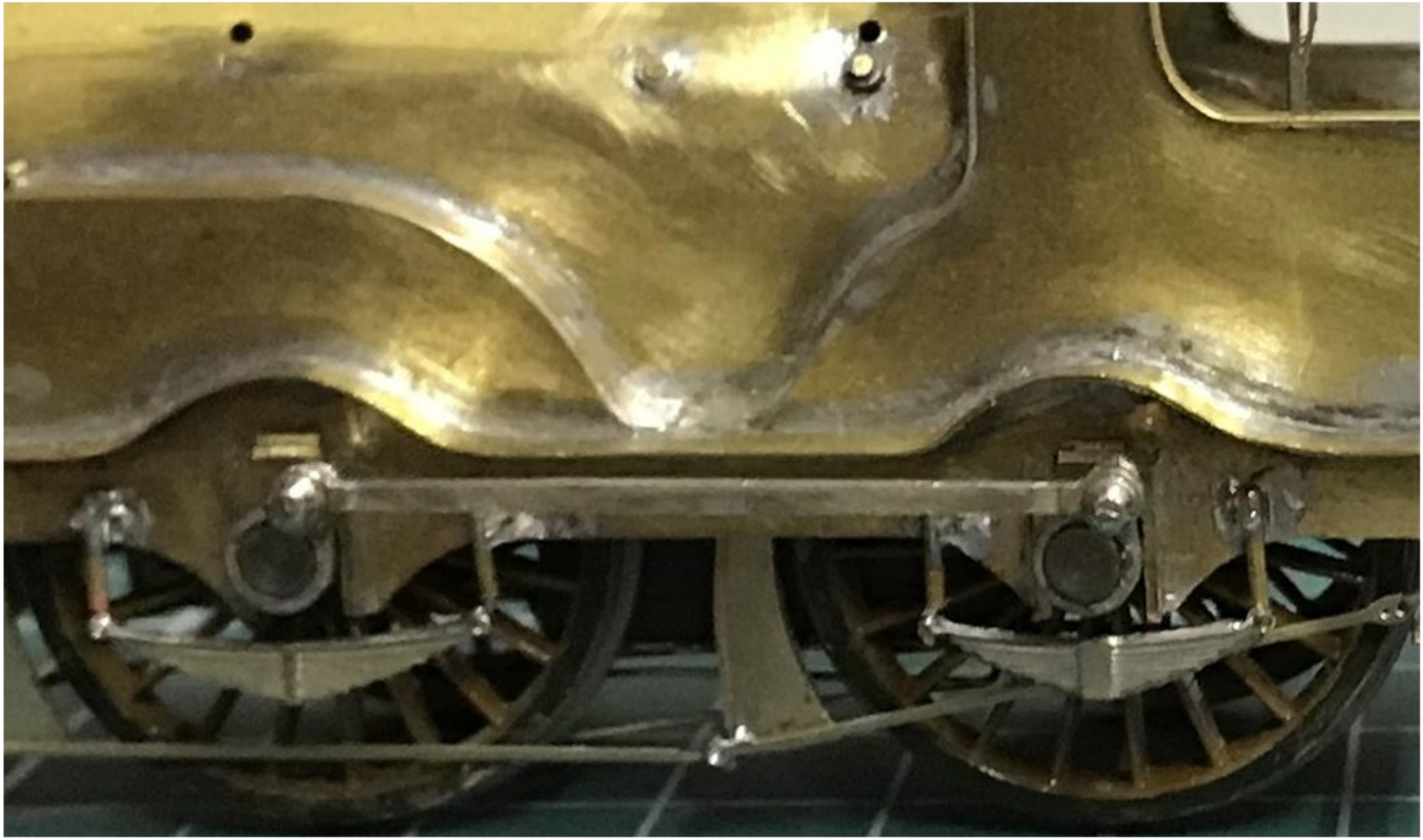
This photo shows the result.

The completed loco in Precision Paints etch primer.

Notice the hanging fittings … and that they are different distances apart - as the Centre springs of most of Stroudley's vehicles are longer: Belgravia is no exception.

Take note that after building, and sometimes having solder overrun, cleaning up and etch primer covers the apparent blemishes…. ***But the surfaces must be flat!! No lumps!***

Some spots of solder spreading are in evidence: meaning lots of flux and wipe it around with the iron!



A close-up with the springs in position.

The anchor wires are soldered behind the springs, and have a kink in them to jam in the tubes.

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A set of late Craven coaches in 4mm

Nicholas Pryor

The starting point for these coaches was the excellent series of kits produced by Ian MacCormac. Six coaches have now been built and painted, and were shown in their completed state at the recent Circle AGM. Ian MacCormac took photos at the AGM which feature on his blogsite and in the article later in this issue. Photos in this article are by Ian Willets and Dave Studley.

The set comprises one each of the following types:-

15B four compartment second

15C four compartment first

15F five compartment third

15G brake luggage third with one full compartment and two coupés

15J brake third, four compartment

20D full brake

Ian offers two further styles of brake luggage third, the 15H with three full compartments and the 15I with three compartments and a coupé. The prototypes were all built in the period 1863-68. The full brake is 20' overall with a wheelbase of 12' 3" and is an attractive vehicle with a roof lantern and external duckets. All the third class vehicles are 24' long with 14' 6" wheelbase and the four compartment first/second are slightly shorter at 22' 7" with a 13' 10" wheelbase.

The kits were built by Ian Willets, and he reports a trouble free process. The finished vehicles came out well, especially the outside framed 20D full brake. The Bluebell Railway has the body of type 20B full brake No 94 of 1858 and the model has very effectively captured the robust and rugged look of the original.

I had planned to bring the set in their unpainted state to the Blatchington meeting earlier this year. Sadly the weather set in and the train service from north London was badly disrupted. My apologies to those who had hoped to see them that day.

The full 6 vehicle set complete before painting.

Above

4 compartment Type 15B Second and 15C First.

Right - Type 15G Brake Luggage Third with two coupé compartments.

The most interesting and challenging part of the project was the question of how the various vehicles should be finished once built. Clear cut information on how these carriages looked at the time they were built is fairly sparse, particularly as to the colours that Craven would have used, and lining and lettering styles. The finished vehicles are in the end our best attempt to interpret the available information as to how these might have looked in period, and should be viewed as such. They were painted by Dave Studley and he and I had a lengthy correspondence over several weeks deciding on what we would do. We drew on several sources, the main ones being both *Southern Style Vol 2* by Peter Wisdom and *LBSCR Carriages Vol 1* by Ian White, Simon Turner and Sheina Foulkes. We also drew on the now sometimes overlooked 'Britain's Railway Liveries 1825-1948' by Ernest F Carter (1952). Finally I made enquiries of a specialist in Victorian decoration at the V&A Museum.

Southern Style 2 gives a straightforward account of what is known of Craven carriage liveries. There is greater detail developed at length in chapter 2 of LBSCR Carriages Vol 1, and we drew heavily on both sources for guidance as to what is known about colours.

The roofs of all the vehicles have been painted in Dave's standard 'drab' colour, which varies slightly every time he mixes it, but here has come out as a creamy, grey-brown colour with a hint of pink.

Interiors are from plasticard and are decorated simply. Only the first and second have full height partitions. All brake vehicles are now on spoked wheels and all others on Mansell wheels, though this wasn't the case at the time of some of the photographs.

The easiest vehicle of the batch was the 20D full brake.

Here we have followed what LBSCR Carriages tells us of the evidence drawn from examination at the Bluebell of No 94. We have therefore finished the vehicle in a red-brown approximating to a ‘mahogany’ painted finish. It is similar to, but deliberately slightly different from the mahogany colour we have used on some later Stroudley stock. There is evidence on No 94 that the ends were originally red and both ends end of this vehicle are finished in a colour approximating to vermilion.

Type 20D full brake

The two four compartment coaches are in varnished teak. We decided that the best interpretation was that first and second class coaches of the era being built in teak, would have been varnished when new, though it is likely that over time as that finish deteriorated , they would have been painted over. There is very limited evidence as to whether and, if so, how any coaches were lined in period. LBSCR Carriages has only one photograph showing what might be lining on such vehicles. Thus the use of a single gold line around panel lines, doors, windows and ventilators is entirely our interpretation. But it does look good in the flesh, and if the coaches were lined, this is a logical way to have done it.

Type15B 4 compartment second

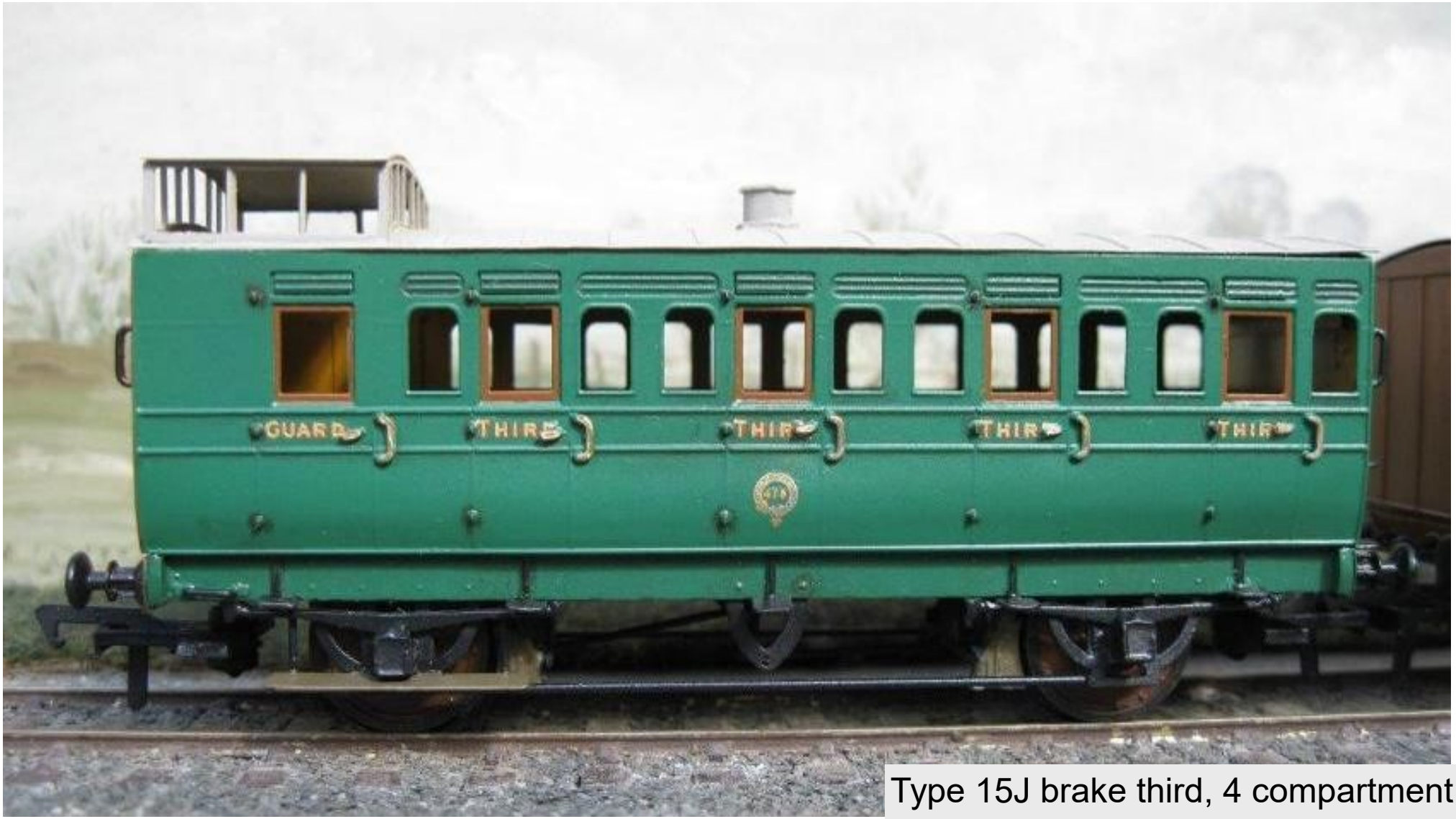
The most difficult livery to capture was that for the third class coaches. Readers are referred to the lengthy commentary on the available evidence at pages 12-16 of LBSCR Carriages. We followed the idea of 'sea green' or a blueish green as being a likely colour for the thirds. Carter has nothing on carriage liveries for this era but does have information on the various greens used on Craven locomotives. We have chosen to try to emulate the green used originally by the Midland Railway in the Kirtley era before Johnson introduced crimson lake in the 1880s. Carter considers that to have been similar to the green used by the LBSC at the time. There is a colour illustration on the front cover of Carter which shows what a Kirtley 2-4-0 may have looked like. That shows what can really only be described as a blueish or sea green.

When I asked at the V&A what someone in the 1860s might consider to fit those terms, I was shown similar looking colours. The technology at the time for the creation of different colour shades was limited to the use of a small number of primary colours derived mostly from natural sources, of which some were more suited to the arduous demands of railway service than others. The range of colours used on the very early railways was limited and the sudden burst of colour across the network in the 1870s and 1880s was probably a result of the introduction of much more stable industrially produced pigments at that time. There is a fascinating exposition of the subject in the introduction to Nigel Digby's "The Liveries of the Pre-Grouping Railways'. This is a new and enlarged series of four volumes based on the original series of articles published in BRM over a 12 year period in the 1990s. The second in the series has been published in the last few weeks.

So all three thirds have been finished in what is a shade that is likely to have been called sea green in the 1860s and is a shade that could in practice have been created from the materials available at the time. But whether it is right is anyone's guess.

Type 15F 5 compartment third

More contentiously, we have finished the outer ends of the two passenger brakes in vermilion. If the correct interpretation of the evidence from the Bluebell's No 94 is that the outer ends of full brakes were red from 1860 onwards, then would it not be logical that the same would apply for the outer ends of all other brake vehicles as well? No one knows the answer, but I hope our interpretation might be tenable.



Type 15J brake third, 4 compartment

Lettering also involved some guesswork. LBSCR Carriages suggests that class designations were carried in the waist rail but without the word ‘class’ from about the time these carriages were new. We used Eric Gates' Stroudley era transfers. We also chose to use the larger garter placed below the waist rail on the passenger coaches. Vehicle numbers are chosen from the lists in LBSCR Carriages Vol 1 page 207. In the absence of any information at all on how the full brake should be lettered (assuming that it would have been) we adopted a style similar to later vehicles and chose a number from LBSCR Carriages Vol 2 pages 186/7.

Type 15G brake luggage third with one full compartment and two coupés

There are three more of Ian’s kits on the production line One further type 15F third is planned to make up a 4 coach third class set all in green. A further type 15 B second in teak and a 20D full brake in brown will make up a five coach set. Now all we need is a pair of Ian’s long promised Craven locos to haul them.

Any comments on or suggestions for improvement to the livery for these carriages from readers would be very welcome.

More scenes from Ashcombe Down

Mike Cruttenden

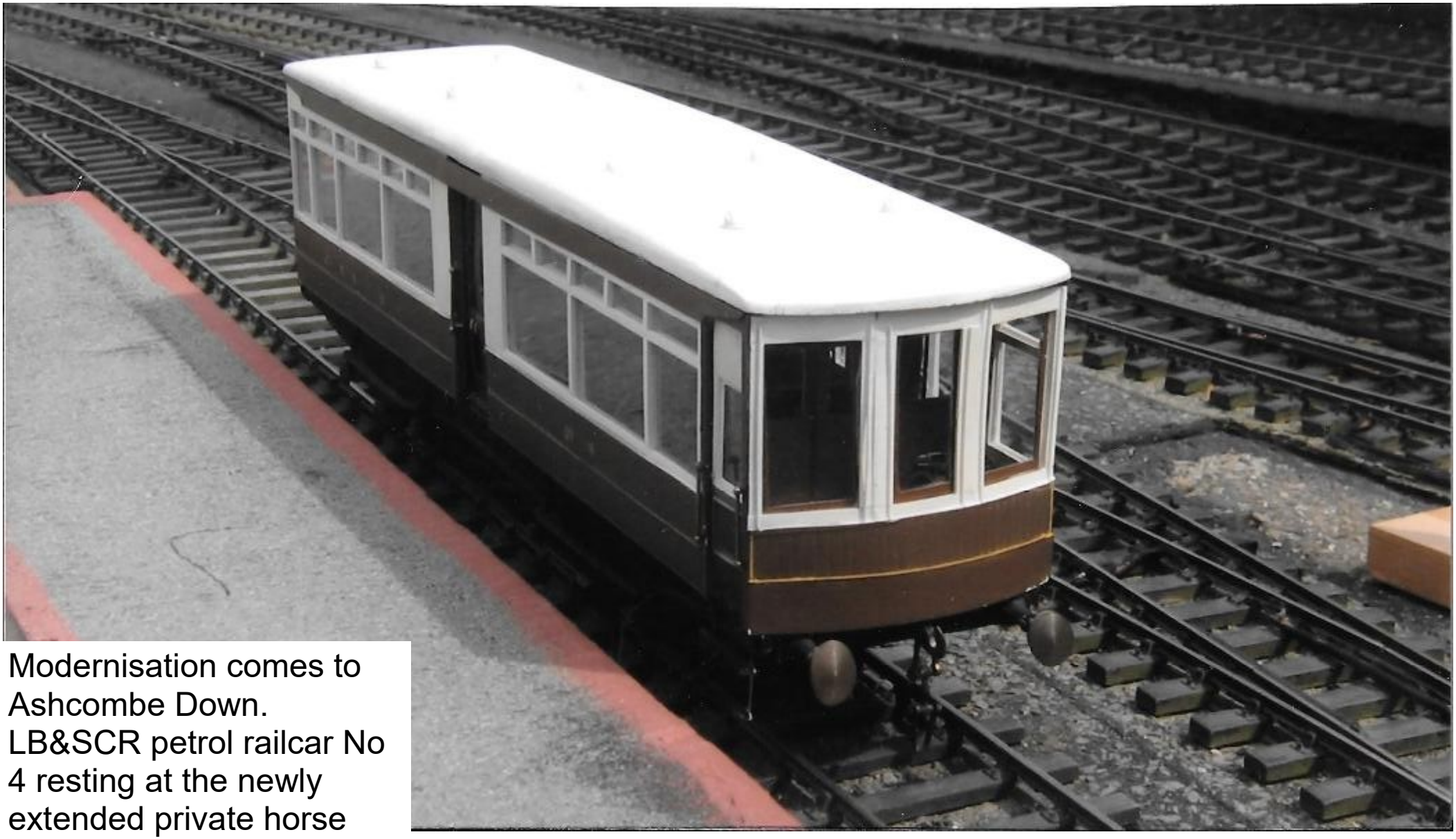
Awaiting their turn of duty: assorted locos at Ashcombe Downs shed siding. Lines in the foreground are the main avoiding lines, climbing the 1:40 gradient to Summit Bridge.

From left to right, lines on a 1:50 gradient are up main, down main, Sand Rocks Junction and down relief road leading to Ashcombe Downs station. Also shown is the south portal of Sandy Hill tunnel on the new Somerhill branch, which was built and opened this year. The relief road allows direct access to the loop line platform at Ashcombe Downs or the branch line's newly installed bay platform. The branch can be worked completely independently of the main lines, dependent on the number of operators available.

Rebuilt 2-4-0 *Epsom* on a short train, crossing the Edward VII bridge before tackling the 1:40 gradient of the next section of line.

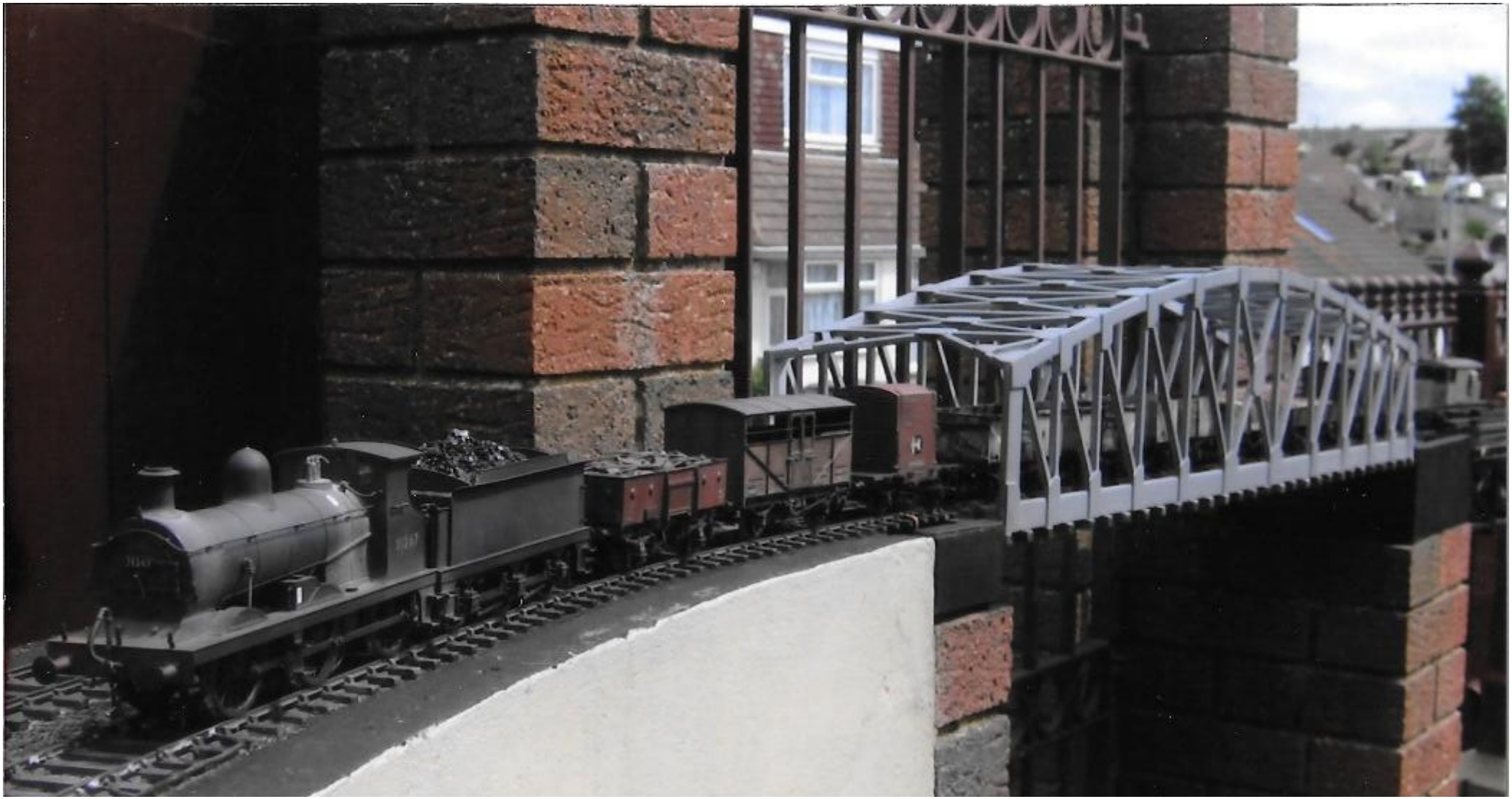
West Brighton in the background, built by Peter Wisdom: assorted goods stock by John Birch.

B1 number 197 by Colin Haywood. Assorted wagons on the high level siding by John Birch.



Modernisation comes to Ashcombe Down. LB&SCR petrol railcar No 4 resting at the newly extended private horse box and carriage truck loading bay at the southern end of Ashcombe Downs station. The bay was extended last year to allow room to accommodate a private horse box, saloon carriage and brake/third for Lord Ramber's private party.

MSC group's K class 2-6-0, crossing the Edward VII, on a northbound passenger relief train of mixed livery stock. The line at this point is on a double reverse curve, on a continuous, reverse 1:40 gradient. No wimpy locomotives on this layout! The gradient continues for nearly half a scale mile, all the way to Summit Bridge, bypassing Ashcombe Down station. In reality, the bridge swings to allow access between the house and the the workshop and rear entrance.



Modern image! 1960’s goods train leaving the Queen Alexandra bridge and about to cross the Valley Pond three arch viaduct, known locally as Three Arches. This bridge lifts out and is only in position when the railway is in use as it blocks the rear entrance to the property.

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Short Trains on the LB&SCR

Nicholas Holliday

Goods Trains

Photographs of short goods trains in LBSCR days are very rare. This is principally due to the reluctance of Victorian and Edwardian photographers to “waste” their precious plates on such dull subjects, the fact that many of these trains ran in the evening or overnight to avoid delaying the passenger services and, by the time photography was prevalent, the goods timetables had been adjusted to ensure that the service matched the expected traffic. It didn’t matter if there was only a goods train every other day, since any important items, such as perishable goods, would be handled by passenger rated trains, either by loading up the guard’s van, or by attaching a suitably rated wagon as tail load.

This changed after nationalisation; the traffic volumes dropped, and the timetables remained unaltered, resulting in the common sight of a goods loco hauling a couple of wagons and a brake van. However, the train illustrated on the previous page, was captured in LBSC days, with a C2X (DJH, ACE Products or Nu-Cast kits in 4mm and ACE Products in 7mm), two unidentifiable opens and a couple of Billinton LBSC brake vans (SEF white metal kit in 4mm [also Chivers etched brass kits used to be available]).

There were occasions when short trains might have run, usually associated with markets when the livestock trade could be quite important, as there was a need to transport livestock quickly to their new owners once the sales were over. This could mean a train comprising just a handful of wagons, particularly towards the end of its journey, with wagons having been dropped off along the way. However, with variable timings and no guarantee of a train turning up, photographers seldom captured them on film, although this one was caught.

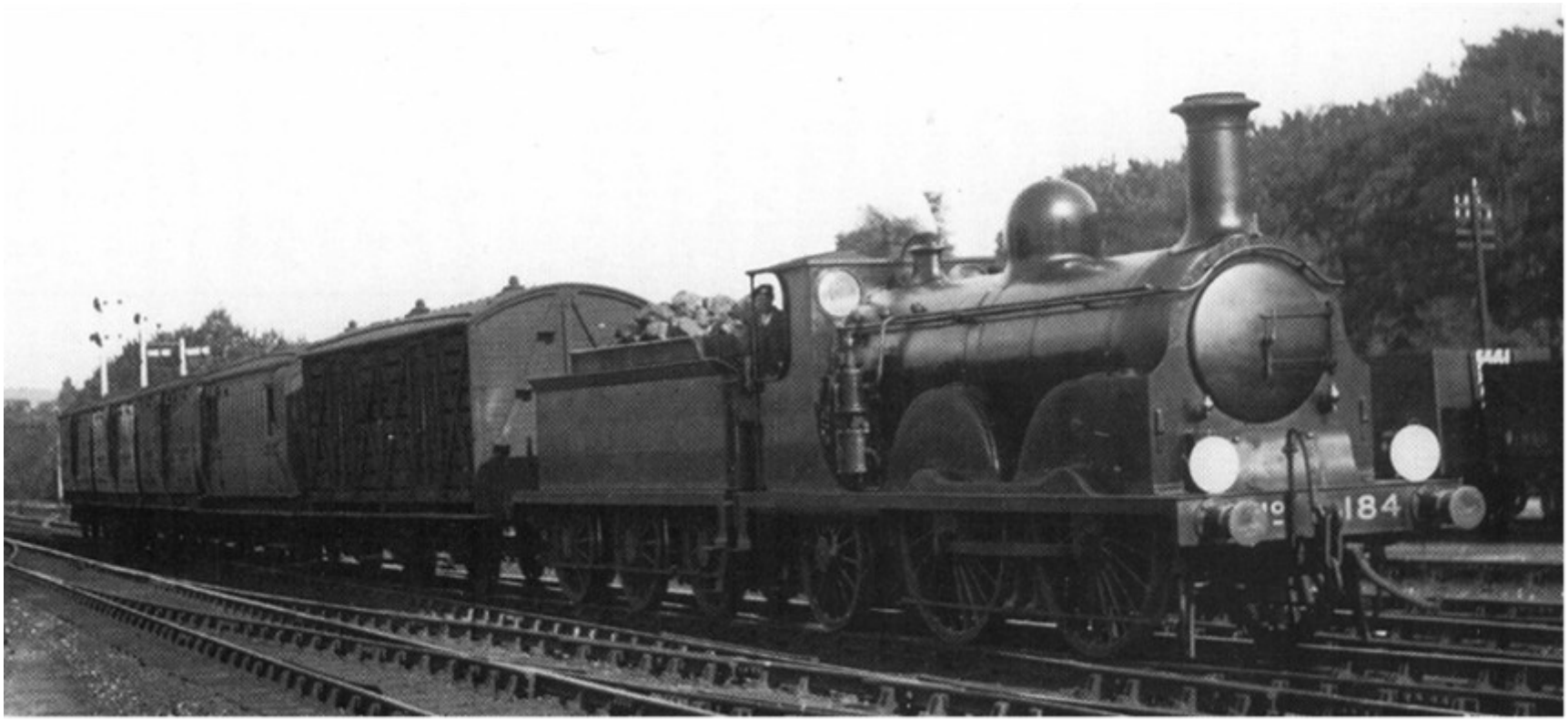
Stroudley E1 tank with five cattle wagons (4 Billinton and 1 Stroudley) and a Billinton brake. (A RTR E1 is promised in 00 gauge from Model Rail, and Billinton cattle wagons are available from Smallbrook Studios {resin casting} and D&S also did both types in white metal).

In addition, many goods trains started life as a loco and one or two brake vans, making their way from the loco depot to their first port of call, to pick up wagons, so this is another possible reason for a short train.

Non-Passenger Carrying Coaching Stock.

This category includes vehicles such as horse boxes, carriage trucks and parcel vans of various types. There were a few scheduled trains, but many would be specials, associated with horse racing meetings, pigeon racing or theatrical specials. In general, however, such trains would consist of half a dozen or more vehicles, since it was perfectly normal to attach up to four such items on the rear of a scheduled passenger train, as such stock was fully compliant with passenger running. This means that, again, photographs are very rare, and the examples here are rather longer than perhaps the title would suggest.

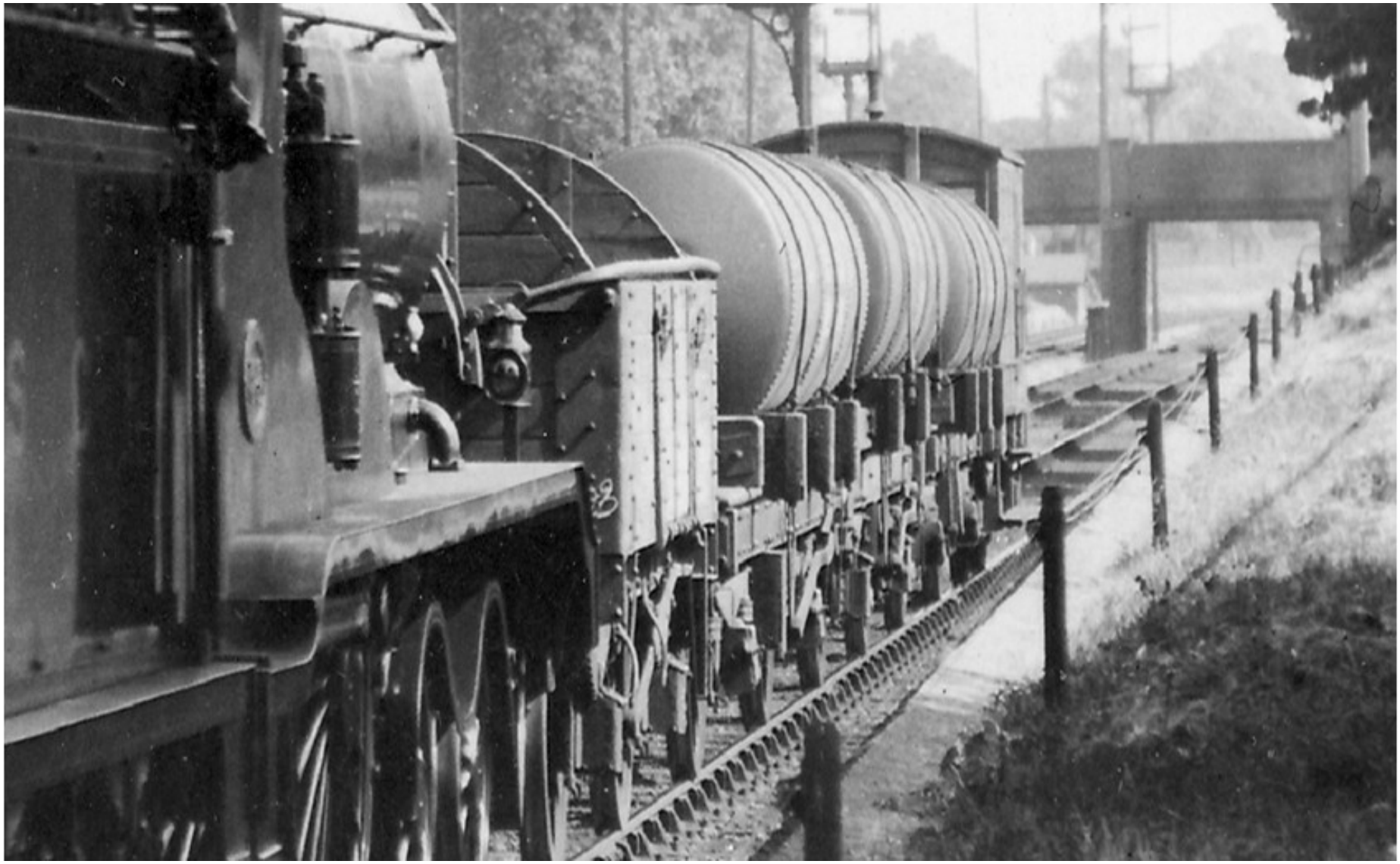
On the right, is a Gladstone (Albion or Gem kits in 4mm) hauling five six-wheeled vans. The first is an outside-framed perishables van, (no kit available)



but the rest are passenger full brake vans, with duckets. The single ducket examples are available from Branchlines, the double-ended one was formerly in the D&S range.

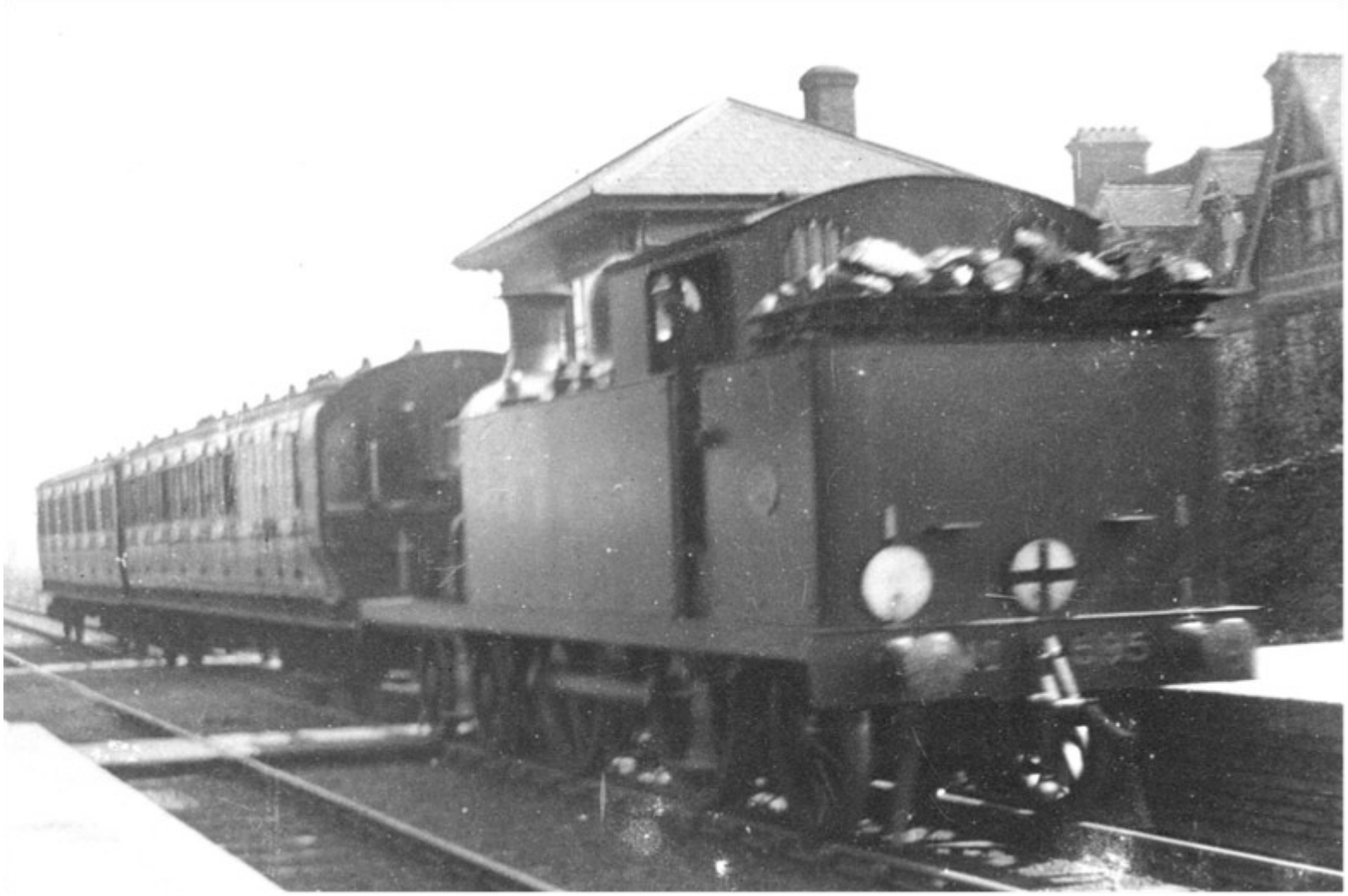
Slightly off topic, is this view of a gas tank train near Balham. The loco is a B2X, not available in 4mm, followed by a Billinton horsebox (former D&S product) and four gas tanks (for which the SEF M&GN kit might pass) flanked by Stroudley goods brake vans (Roxey Moulding etched brass).

A similar view shows a shorter train, just three tank wagons, a brake van and familiar LBSC five plank open (Cambrian Kits and Smallbrook Studios in 4mm). It is interesting to note that the loco, another B2X, is running in reverse, on what is quite a long trip from Eardley carriage sidings in Streatham, where the gas producing plant was re-located, to the coach sidings and Pullman works at Battersea.



Special trains

Whilst I have been looking at scheduled trains in previous discussions, there were many occasions when special trains might have run, particularly if the customer had plenty of money to burn! Fortunately a couple of examples were caught on camera, although the circumstances aren't known, showing the somewhat ad-hoc make-up of these trains.



An I1 4-4-2 tank (not available but the slightly larger I3 is an SEF 4mm kit) hauls a 54' six compartment brake third and a 48' first (both Branchlines kits).

Robert Billinton's 4-4-0, B2, *Fairbairn*, (not available in 4mm although London Road Models do the B4 in 4mm and ACE Products do it in 7mm) hauls three four-wheel coaches, a five compartment third, a four compartment second/ composite/first and a full brake (all Roxey Mouldings kits in 4mm and 7mm, Smallbrook also produce some examples, and Etched Pixels in 2mm).

Breakdown trains

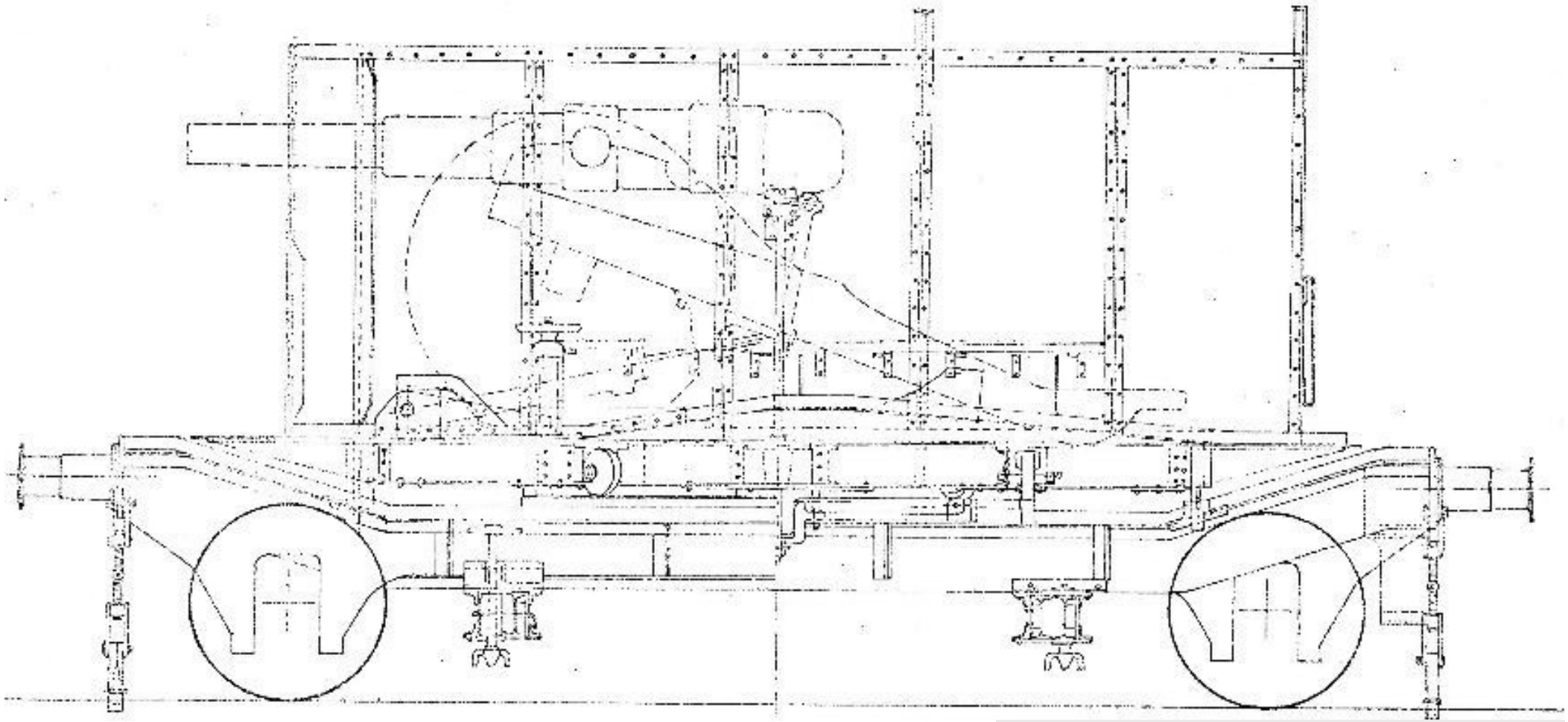
There were two large breakdown cranes on the Brighton, one at Brighton itself, the other at New Cross, and each would have a small train of attendant vehicles, to carry tools, equipment and men to the incident site. Although there are plenty of views of these trains at work, there appear to be none showing them on the move. In earlier days the retinue consisted of old Craven coaches (5&9 Models) and later Stroudley 4 wheeled brake thirds were adopted, along with some adapted goods vans.

The “Armoured Train”

Between 1894 and 1899, the 1st Sussex Artillery Volunteers (made up largely of men employed on the LB&SCR) operated an “armoured train”. This was less an armoured train and more a rail mounted gun, but it appeared at a number of Volunteer Field Days in the south east of England, including on the Bluebell Line. The train consisted of D Bogie tank Goldsmid (Sir Julian Goldsmid was Colonel of the regiment), a wagon for the gun’s limber, and a couple of elderly Craven carriages, which had steel plates attached to the roof to provide protection for riflemen. The innovation was that the mounting, which was designed and built at Brighton Works, included a recoil mechanism that allowed the gun to be fired safely across the line of the track.

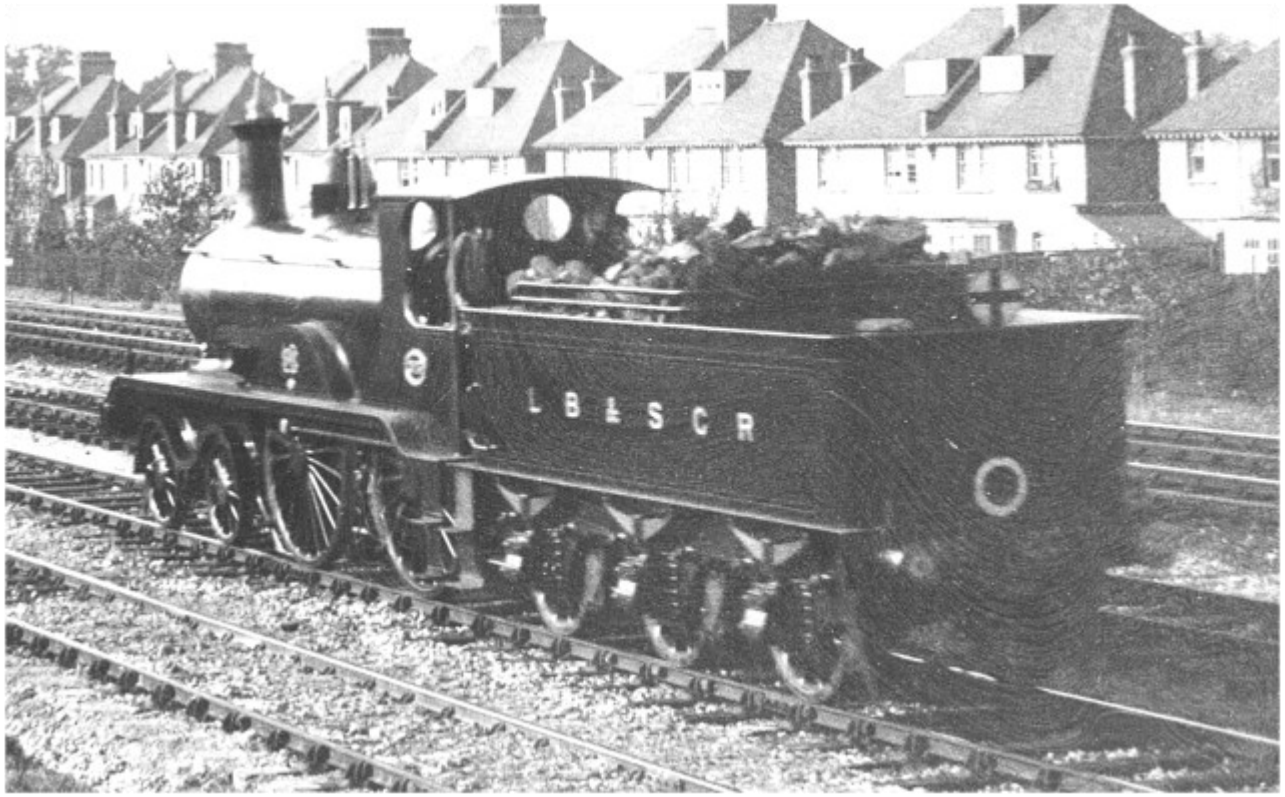
Carriages might be adapted from the 5&9 range, while the gun wagon was an adaptation of one of the machinery wagons of 1894. The mounting was removable so that the vehicle could return to normal traffic outside the campaigning season. Happily, this is now available from Shapeways as a 3D print at

https://www.shapeways.com/product/CDHQPL3SE/a-76-lbscr-well-wagon-1a



Drawing courtesy of Peter Jessop

Light Engines



From time to time, locos would be moved around the system, perhaps for repairs, or for relocating to a different depot. In some areas such moves were included in the working timetables, to get the loco from its depot to where its next duty started. There would be much such movement, for example, in the London area, where the main loco depot, at New Cross, was some distance from London Bridge, where all its passenger duties would start, or around Sutton, which generated much traffic, but relied on locos stationed at some distance at West Croydon or Epsom.

In the picture above, the loco, a B2 4-4-0, in early umber livery, is running in reverse, tender first, hence the headcode discs on the tender, and note the crew stoically facing in the right direction, at the mercy of coal dust being blown off the tender.

A regular light engine trip involved engines newly built or serviced at Brighton carrying out a test run along the west coast line to Hove, and many examples were caught by photographers like the Bennett brothers who were in the know. Examples can be found in Klaus Marx book on the LB&SCR, The Bennett Collection.

Inspections

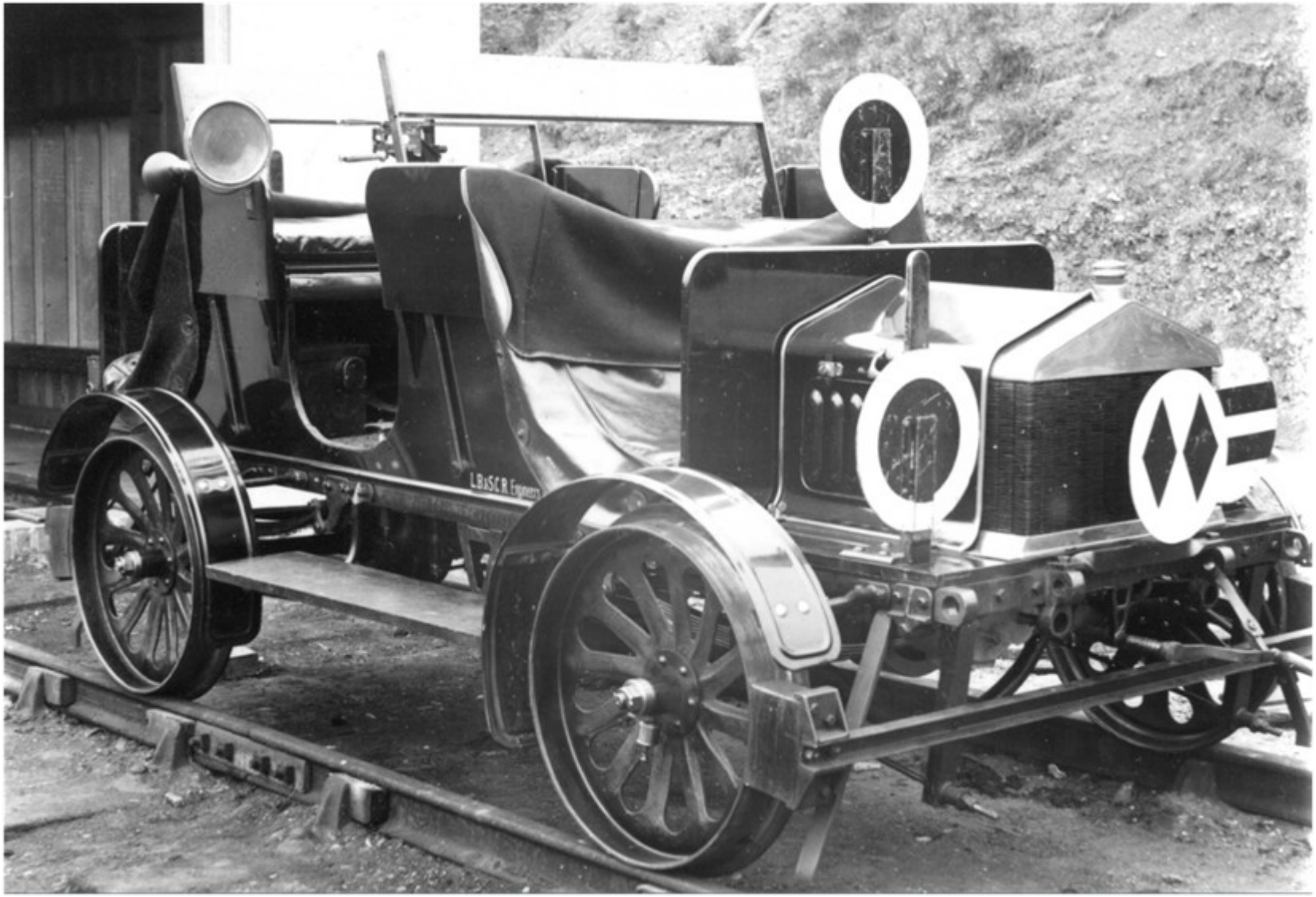
The LBSC had a number of coaches intended for use by Directors or Engineers, which would be propelled around the network for inspections. The ultimate was probably the Inspector, an old Sharp Stewart 2-4-0 tank, formerly named *Hayling Island*, which received a passenger section, and trailing wheels, to have a brief life ferrying Robert Billinton around.

This vehicle was previously available from 5&9 Models and might turn up on E Bay.

Etched sides for the Directors' saloon, preserved on the Bluebell Railway, http://www.bluebell-railway.co.uk/bluebell/pics/60.html are available from Worsley Works, and Smokey Locos used to produce a kit for the six-wheel engineers' saloon, which ended up on the Isle of Wight.

Petrol cars

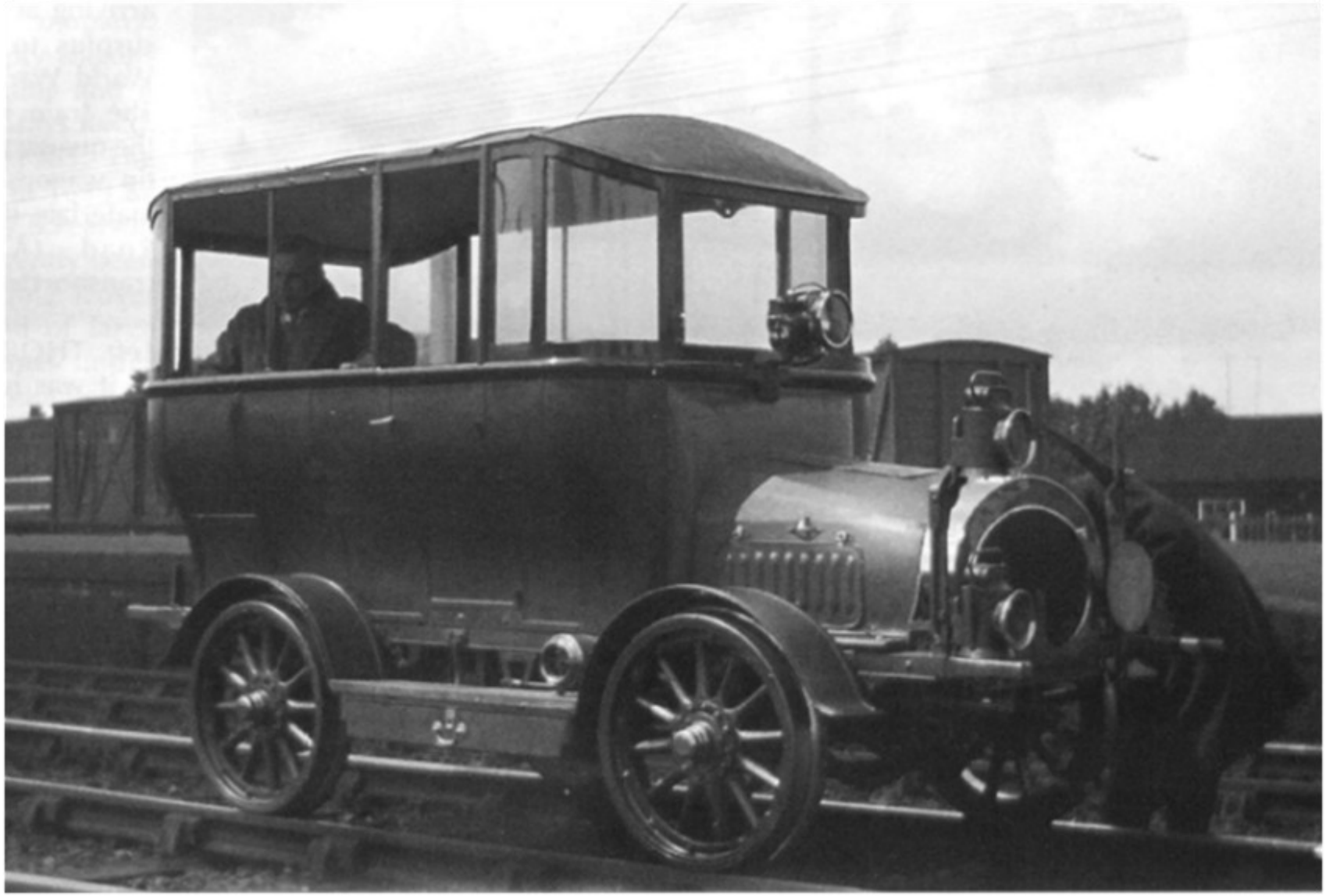
The Brighton was an early enthusiast of internal combustion propelled inspection cars, one of their first being this Alldays and Onions built vehicle. At least three other, different types were acquired in the early years of the twentieth century.



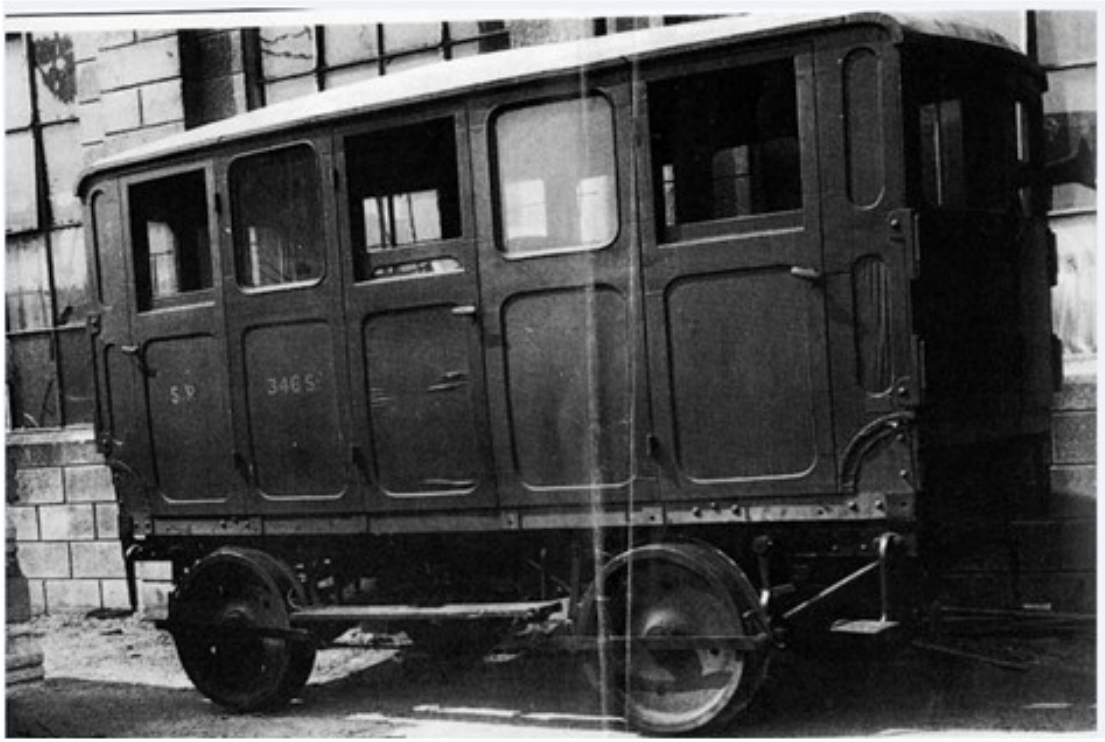
There are no kits for such vehicles, although a reasonable, non-working, replica might be possible using a suitable car kit, such as those produced by Scalelink or Springside.

Motorising one might be an interesting challenge!

After ten to twelve years' service, the early inspection cars were replaced by a small, enclosed Drewry type vehicle, and a rather smarter cabriolet machine, allegedly built at Brighton works. The latter can be seen at Havant, in later years, having been given a hard top roof by the Southern Railway. (Does anyone recognise the rather distinctive radiator design?)



The Drewry car, based on their standard design, but with a Lancing built body, was much more utilitarian, and survived into the 1950's in BR service.

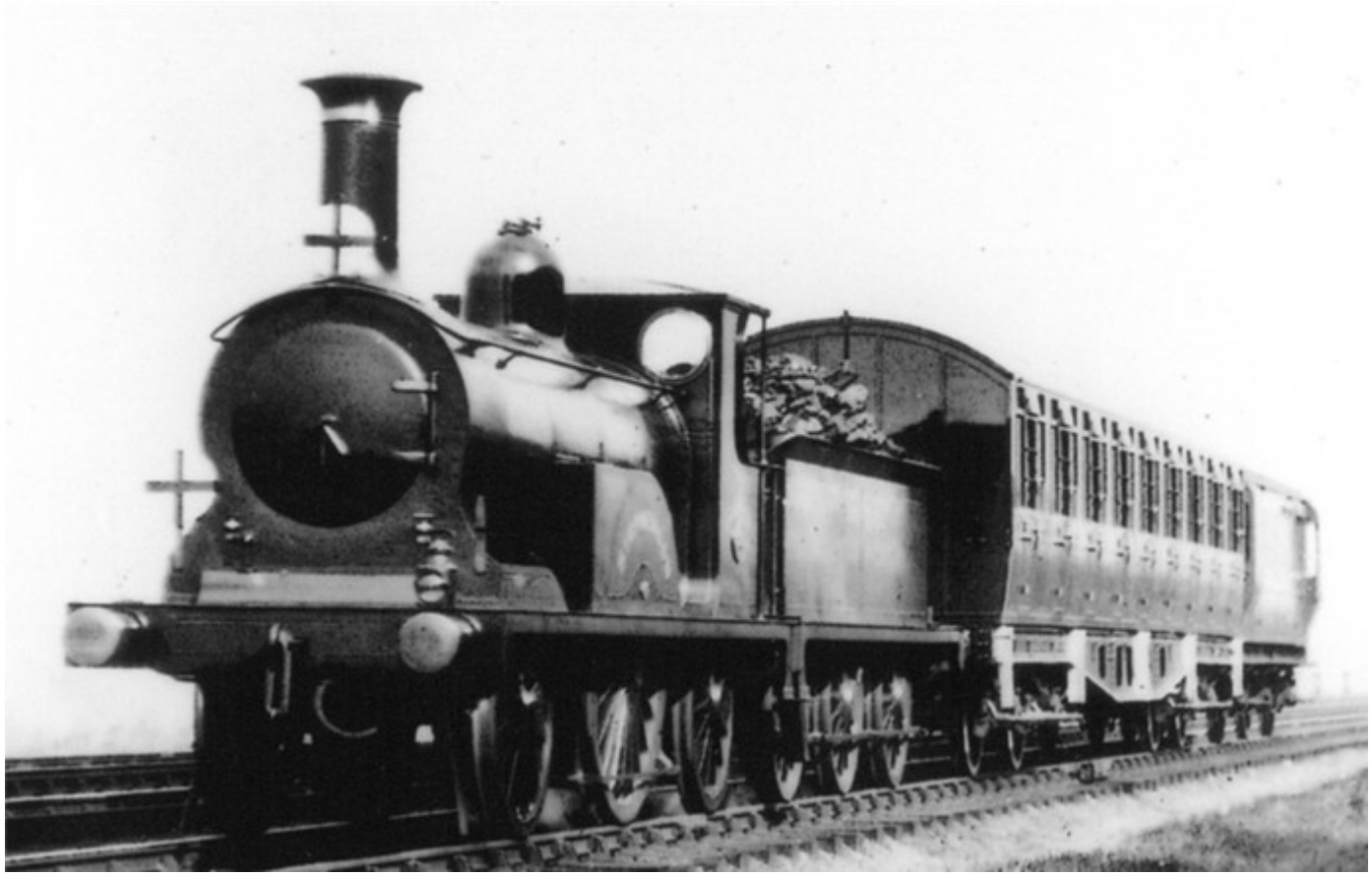


The author created a model of it, using a Black Beetle drive and a simple scratch built plastikard body. Seen here in goods grey, it probably should be painted in umber, but there are no clear photos of it in LBSC service.

And finally

As discussed in an earlier section, the original South London electrification showed up that there was an over-provision of first class seats, and the full firsts that were included in the initial three car sets were taken out of service, and new composite trailers provided, to create two car sets with the original power cars. Left with a number of redundant, but new, first class carriages, the Brighton wanted to make use of them. They had been built to the full extent of the loading gauge on the South London line (hence the bars across the droplight windows) and the company were anxious to check whether they needed to restrict their use, if in general service. So, one of the final duties of the last Stroudley Single, *Stephenson*, was to tour the system, with one of these firsts in tow, with timber attachments to check clearance.

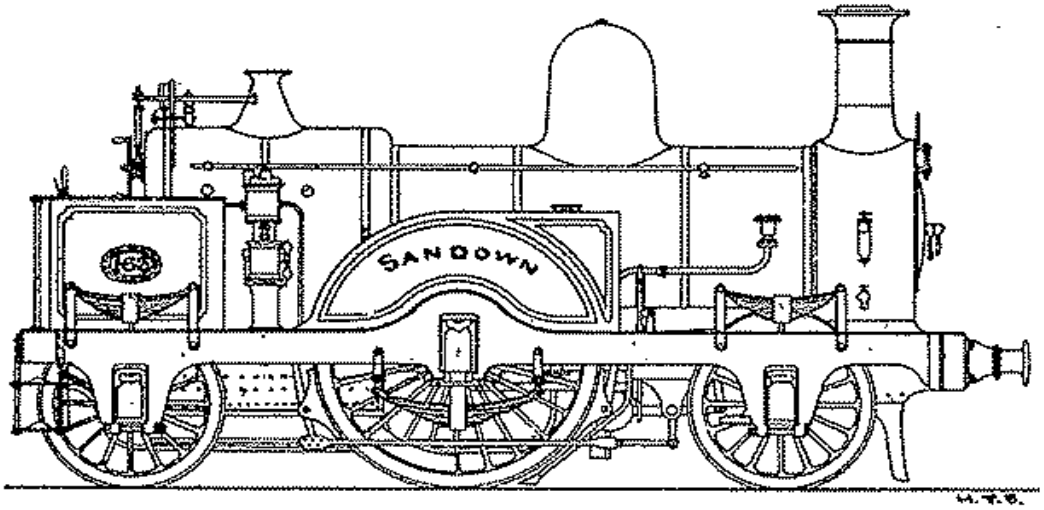
Fortunately someone was able to capture this sight, which includes a double ended brake van (former D&S 4mm kit), for posterity. The single is available as a brass kit from EBM, but the first is currently not produced. On Shapeways website it is possible to find 3D prints of the power cars as converted into DC units following the abolition of the AC overhead system.



Addendum

Circle Member Ian White has come across an accident report for an incident at Glynde in the snow in January 1887, which details the make-up of the passenger train involved, a stopping train from Eastbourne to Brighton. As he says, “The mix of a Craven single, a Craven First and four Stroudley vehicles, including a horse box, would be a lovely model!”

The loco was No.163 (described as a single with 7ft 3ins drivers) - "Sandown", similar to the Craven single kit produced by EBM but with larger diameter wheels, usually described as 7’ 0”. A pair were built, originally called *Brighton* and *London*, which ran the principal Brighton expresses, even after the arrival of the Stroudley singles, but by the time of this accident they had been sidelined to less important duties, and been renamed after the rather less salubrious areas of *Peckham* and *Sandown*! Sadly no photographs have been found of these magnificent locomotives.



Immediately behind the loco was Horse box 196 - built 1880 - D53 (14ft long) (Roxey Mouldings kit). Then a Craven First 325 - built 1864 and probably a Type 13F (Etchings might be available from Ian MacCormac) followed by Stroudley coaches: Composite 93 - built 1875 - D41, Third 1126 - D33 - built 1882 as a D44 and Brake 52 - D47/222. (Kits available from Roxey Mouldings). No 1126 was originally built as a main-line third D44, with long buffers, as were the other two, and all would probably have retained their original oil lighting, at this date.

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Running-in Boards for Newick & Chailey in 4mm Scale

Phil Taylor

One of the most distinctive and attractive features of the Brighton in my chosen late Victorian era was the painted lettering ‘ornamental bedhead’ style of running-in board. They also form a natural focal point on a model.

Definitive prototype information is not easy to come by however, particularly regarding colours! The ‘bible’, *Southern Style Part 2*, Fig. 94 gives the colours of the lettering as ‘Maroon’, double shaded with ‘Light Maroon’ and with ‘A shade lighter than the background’. There was more than one different style of lettering, along with various shades of background colour, although this does seem to have been closely related to the station ‘Off White’. Luckily photos of the front of this style of board are quite commonplace, including one of each of the two Newick & Chailey boards (more of which later). Photos of the backs, however, seem to be significantly rarer than hens’ teeth….I did eventually manage to find a very distant and blurry view showing the reverse of one of the boards at Lewes, and on that basis, plus my own assumptions, decided to portray the rear as four horizontal planks. No doubt a pin-sharp close up view will now come to light….

It is very fortunate that the only two known photographs featuring the Newick & Chailey boards in the relevant period show each of them. The somewhat fuzzy view featuring the up platform board, along with the south signal box, was published in the Circular (Vol 34 p158 and Vol 35p111).

That showing the down platform board is a beautiful, clear image which appeared out of the blue in *Southern Infrastructure Part 1*, page 64. Imagine my delight at seeing that for the first time! As well as confirming the lettering style, interestingly they also clearly show that the up platform board had spikes on the finials, whereas the other one didn't, a feature I have replicated. Obviously I don't know for sure that this was the case at a given moment in time, but anyway…

The dimensions of the boards seem to have varied according to the location, length and layout of the station name, so I used the two photos to work out the dimensions as best I could in relation to adjacent known structure dimensions and the height of people etc. I made a card mock up to try in place on the layout to check for the correct proportions. As it turned out the first attempt was somewhat oversize, but I was happy with the second, smaller iteration. I then proceeded to make the models.

I decided to make the board panels from 0.5mm brass sheet in order to be immune from warping. The lettering, together with the background, was laser printed on paper using the highest definition settings and attached to the brass sheet using Spraymount, being very careful to centralise it in both axes. For the lettering styles, I was not satisfied with any of the fonts in MS Word or Powerpoint, so I ended up downloading the free trial version of Coreldraw, which allowed me to produce an almost perfect font match, together with the double shading. I made a whole range of variations of letter, shading and background colours and after printing chose the one I thought looked right for the models. Stupidly I didn't make a note of these settings, and I cannot now check them as the free trial period has expired and it is very expensive to buy a licence! Doh, sorry about that everyone….I do know that the ampersand was in a different font from the letters, which I know isn't fantastically helpful. If anyone is interested and has access to the full version of Coreldraw I'd be happy to email them the file. The back faces of the boards were scribed to represent the aforementioned horizontal planks.

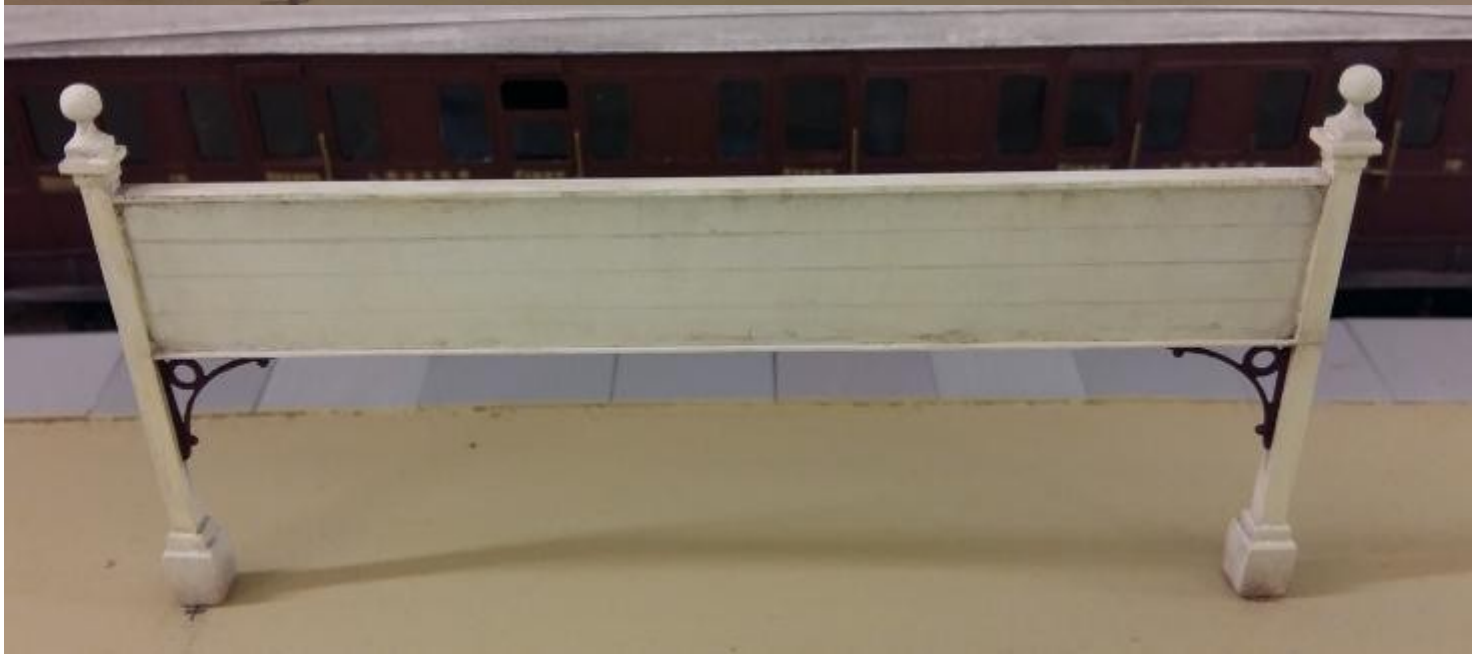
I decided to make the length of the board panels to include the 2mm width of the posts and to inset them into a recess in each post, making up the back surface of the posts flush with a plasticard infill afterwards. The posts were made from 2mm square Evergreen section. To ensure consistency of position, depth and height of the post recesses I made a simple filing jig from scrap brass (photo to the left). The posts were positioned in the slot on a flat surface with the top against the stop (on the left in the picture) and filed down between the square section guides (running up/down in the picture). The posts were then cut to length (in this case 39mm plus 20mm to go into the 'ground'). The bottom ends were filed round to fit into 2mm holes drilled into the platform. The widened sections for the lower 7mm of the posts were progressively built up with 0.5mm plasticard. At the top, there are three successive squares to represent the progressive built up tops, cut and filed carefully from 1.0, 0.3 and 0.75mm thickness plasticard respectively. The ball & spike finials were white metal Model Signal Engineering Great Central finials, ref. SC0027, with their lower parts reduced in height to match the photos and affixed with Araldite. As mentioned above, one pair had the spike carefully filed off!

The bevelled framing around the name panels was added by carefully cutting the central 'hole' from 0.25mm plasticard in two successive layers, which were glued together and painted before attaching them to the board with solvent (after having checked a test piece to make sure it didn't affect the paint or print, luckily not!). The solvent successfully adheres plasticard to paper. These overlays had to be cut to the exact length between the posts, but could be oversize in the vertical direction. When hard, these layers were then trimmed back to the height of the board.

This photo shows the effect achieved. The boards were then Araldited into the recesses in the posts, hard against the end of the bevelled frame and slightly sub-flush with the outer face of the posts. The back and outer faces of the posts were then made good with plasticard and filler. The lower and upper horizontal members below and above the board were then added from 0.25mm plasticard and 0.5x2mm Evergreen strip respectively. The remaining parts were then painted in the off-white.

The brackets were soldered up from fine scrap etch, with a turned-down 10BA washer for the central ring and the fixing bolts added from tiny Grandt line mouldings. These were sprayed with red primer and painted maroon before Aralditing in place and left to harden with the boards upside-down to ensure they didn't slip out of position. See the photo above, where the bracket looks darker than it actually is!

The whole boards were then given a coat of Testor's Dullcote (again after checking for no effect on the print), and weathering applied with a variety of weak mixes and dry brushing to copy the photos as closely as possible. The final photos, on the following page, show the finished articles from front and rear. The slight pixellation of the lettering evident in the photos is not visible with the naked eye. I hope my choice of colouring doesn't meet with too much disapproval from the Circle cognoscenti!!



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No 681 Beulah as 2-4-0T in 7mm scale

Peter Wisdom

I started to build *Beulah* as a 2-4-0 some time ago but was diverted to build Steam Railcar No 1.

The side frames were cut out to accommodate horn blocks, the front one lower by 4mm to allow for the smaller front wheels. As I build split chassis I bolted the frames together using standard frame spacers. I then soldered in double sided pcb spacers (split on both sides) at each end horizontally with holes ready drilled to take the body fixing screws.

A third spacer is vertical about the centre of the chassis which also takes the miniature socket which straddles the split to connect the motor to the frame and hence the wheels. The motor gearbox is by ABC Models using their nylon bushes on the gearbox axle. Slaters wheels were shorted by soldering a thin length of wire between the tyre and the metal axle centre.

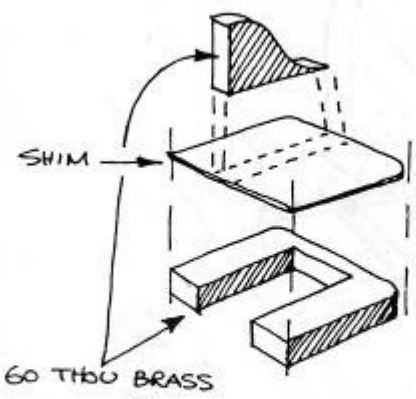
Once the chassis was running I fitted the brakes on 16BA bolts so that nuts could be used to fix the brake hangers in place. The cross members which hold the brakes in alignment were made from 2mm plastic tube drilled out to accept 1.5mm brass tube into which is inserted a short length of tight fitting brass wire with a small piece of the 1.5mm brass tube soldered to the outer end. This holds the brake block in place by virtue of a kink in the wire which makes it a tight fit but removable. The brake pull rods are secured to the operating crank by tapping the crank 16BA and inserting a cut down 16BA bolt.

The footplate was fitted with raised buffers referring to Colin Hayward's excellent drawing of the modifications to a Vulcan Terrier to achieve the same aim. I found that in order to fit the buffers I had to thin the nuts, Colin advised drilling the buffer shank and fitting a pin. I used brass angle for the valence cut short at the ends to take a piece of brass sawn to the end profile. The cab and bunker, side tanks etc were made by my usual method of cut up side elevations glued to nickel silver sheet and cut out with a piercing saw.

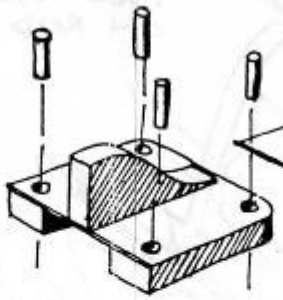
MODIFICATION TO VULCAN TERRIER

FOR A1X RAISED BUFFER CONFIGURATION

BUFFER BRACKETS – SOLDER UP 4 UNITS



1



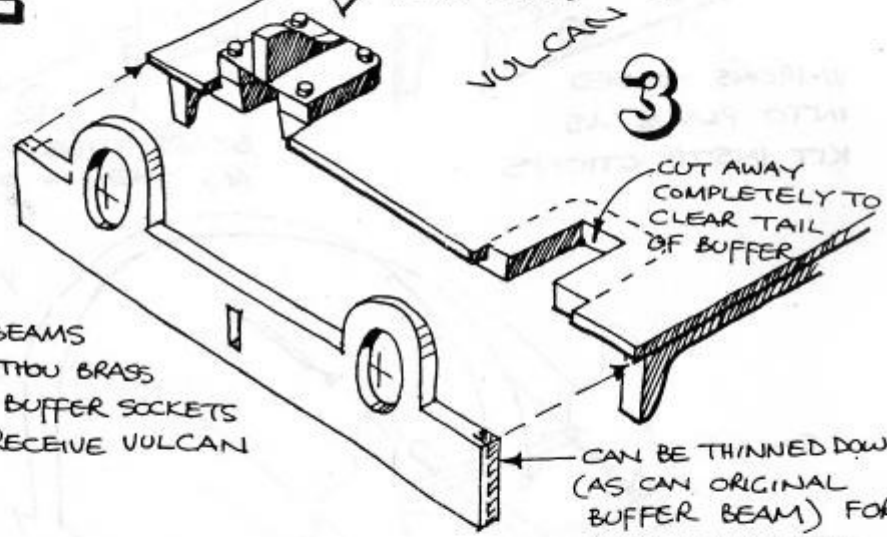
DRILL 4 Nº HOLES IN ASSEMBLY TO RECEIVE SHORT STUBS OF BRASS ROD.

2

FOOTPLATE DRILLED THROUGH ASSEMBLY TO RECEIVE FALSE 'BOLTS'

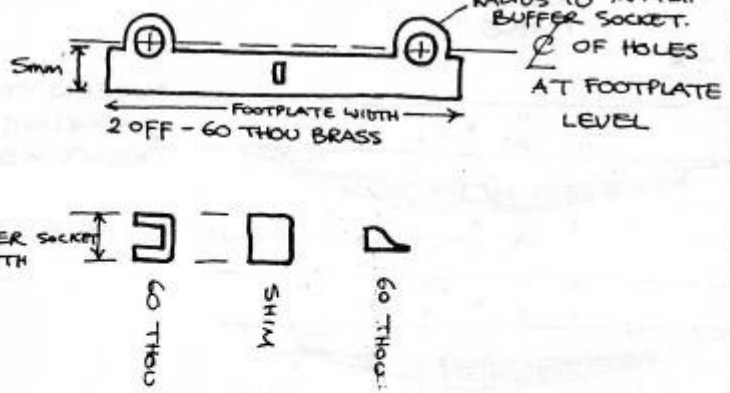
VULCAN FOOTPLATE

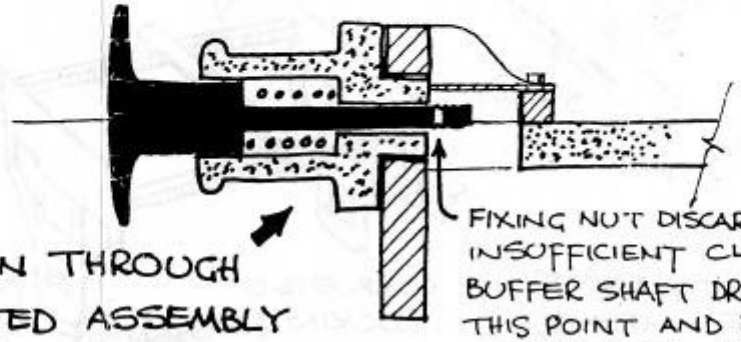
3



NEW BUFFER BEAMS CUT FROM 60 THOU BRASS WITH RAISED BUFFER SOCKETS DRILLED TO RECEIVE VULCAN CASTINGS

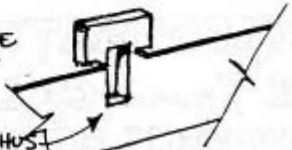
PARTS – DO NOT SCALE





SECTION THROUGH COMPLETED ASSEMBLY – NOT TO SCALE

I HAVE SHEWN THE COUPLING SLOT IN THE SAME POSITION AS ORIGINAL KIT NOTE THAT SOME LOCOS e.g. 32655 HAD RAISED COUPLING SLOT AT RE R-THUS



The coal rails were soldered up in a jig and, following Colin Paul's advice, fitted in place by drilling four holes each side of the cab rear and soldering on the inside. The bars over the rear spectacles are soldered into four holes in a straight length of brass strip level with the top of the cab and a curved piece under the spectacle. Lamp irons are a mix of L G Miniatures and homemade filed up from a length of 1mm square brass by filing half way through, turn over, file half way through again and you have a lamp iron, or if you got it wrong two pieces of brass.

The cab roof is made from Plastikard starting with a square of 30 thou to the outer dimensions of the cab. This is held in place by two lengths of Evergreen strip on the underside, glued in place so that they hold the 30 thou in place. The domed top is two layers of 60 thou which are smaller than the base and filed and scraped to give the roof profile. Finally fix a 10 thou upstand round the outside.

The boiler fittings were from my bits box, source forgotten, but the chimney lacks the copper cap unlike others I have used so I resorted to copper paint.

No 681 is intended to pull and push a Balloon Trailer and is finished in Marsh Umber, a first for me using EB Models Marsh transfer sheet. I found this to be a longer process than I envisaged however patience is rewarded and you can look forward to building another kit to use up the leftovers. The loco is coaled up using real coal and, with coal rails, some big lumps.

No 681 performed well on Mike Cruttenden's outdoor layout when pulling, but failed to push due to the rear crankpin striking the step. This was cured with a few strokes of a file.

A satisfying build for an unusual modification which looks handsome in Umber, although I never thought that I would say that.

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....and the Balloon Trailer

Peter Wisdom

The only suitable vehicle to pair with no 681 is a Balloon Trailer. The Branchlines version is the first version with a corridor connection so I opted for the Roxey kit (ex MSC). Instead of building the as per instructions I built a separate underframe to mount the bogies and trussing etc. The sides were soldered to a floor together with the ends and cut down partitions.

I wasn't happy with the fitting of the supplied roof so opted for a built up roof. The partitions were cut down to accommodate a 'ceiling' of approx. 3mm ply which is flush with the top of sides. Onto this are glued 6mm ply formers formed using one of the partitions as a pattern. I made a jig so that all the partitions would be the same profile. I made seven formers in all and also fitted a nut toward each end of the ceiling to take a length of studding to hold the roof in place. The roof is planked using 0.7mm ply cut into thin strips approx. 4.5mm wide.

Start with the bottom edge on each side to get that exactly right then continue to lay planks using wood glue and headed pins to hold the planks in place. Lay alternately on each side but as the roof becomes a forest of pins give up until another day. The last plank will have to be cut to size, then leave for the glue to set before sanding down with fine sandpaper. Finally a covering of cartridge paper is glued on and then given a couple of coats of dilute Resin W (other wood glues are available) which is sanded between coats. Fix the vents and airbrush white or a shade thereof.
If I built another kit I would treat the doors separately finishing them off before fixing in place as applying the white panelling is easier on the bench than in place.

Two views showing the progressive build up of roof strips.

Three views of a Smokey Locos Models kit of a D94/40 Billinton first class saloon, for which the roof has been built up in a similar fashion.

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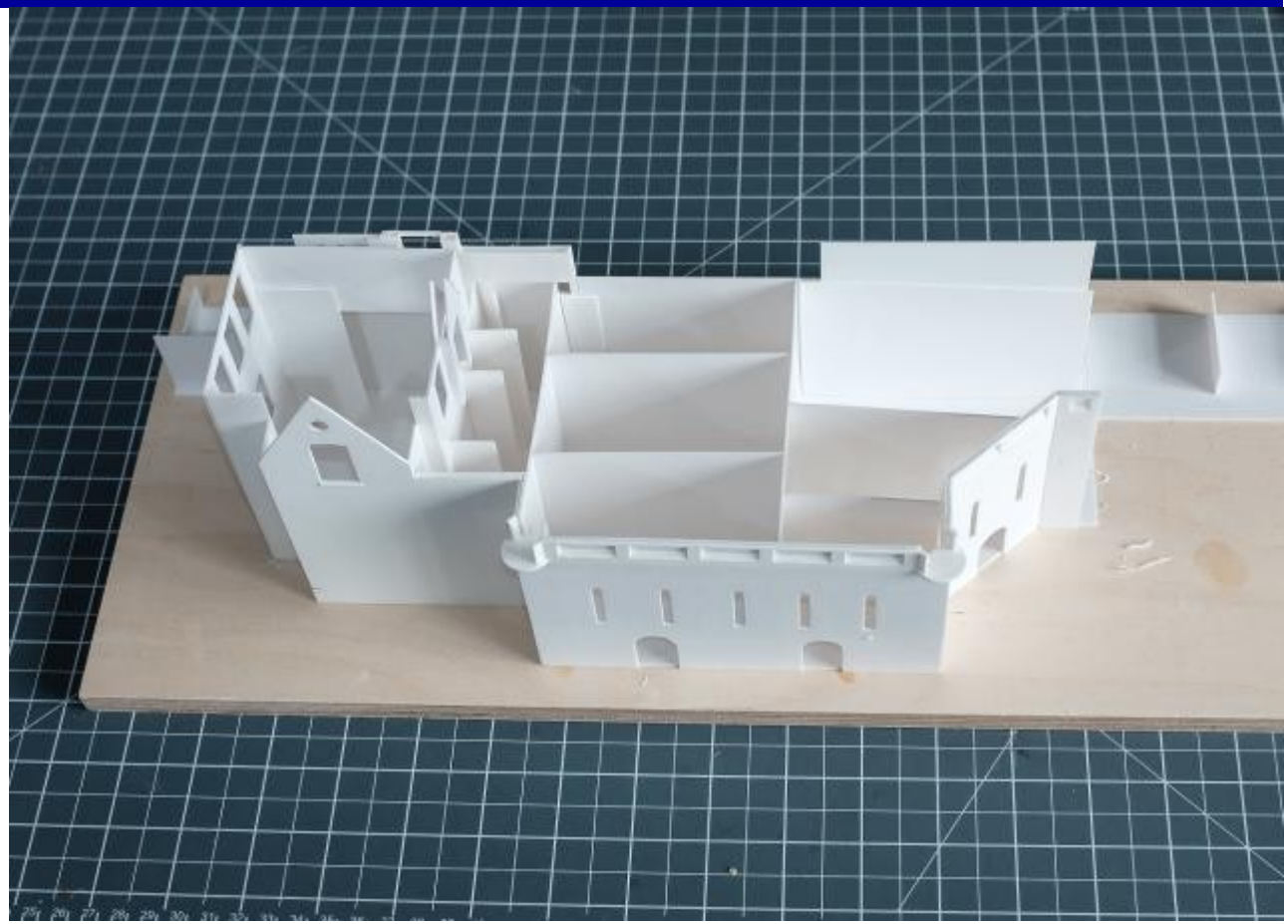
Lewes Second Station—Leighside Access

4mm Scale Model

David Rigler



In the first instalment of this article I had completed most of the main walls of the building and concourse in plasticard. The last actions before applying brick papers and windows was to add partitions to improve rigidity and support the concourse deck. Plasticard is a great material to work with but does have a tendency to sag if not supported well.

I don't attempt in this article to describe every step of construction method, as I made good reference to Peter Smith's books on "*Using Printed Papers in Railway Modelling*" and "*Scratch Built Buildings the Kirtley Way*", in which he describes the methods better than I can!

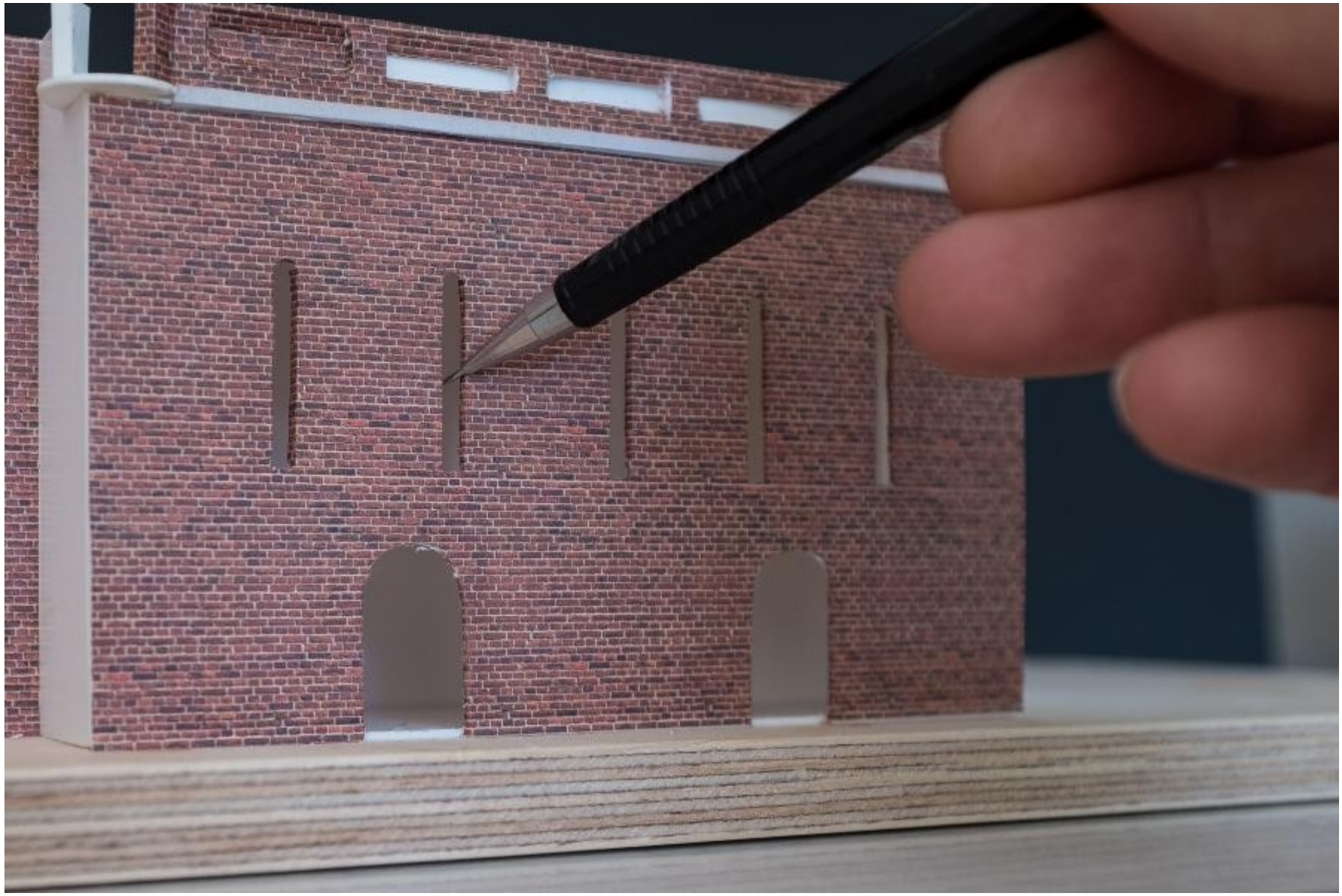
Regarding printed papers, I did use his reference to www.textures.com. You can download a certain amount for free but I paid a one off fee for 500 credits so that I had full access to larger ”seamless” files.

For this project I used papers for the brickwork and all stone work (Parapets cappings, lintels etc)

One decision I made was to build and paper some of the more intricated detail before assembling to the main structure. In the main this worked but I am not totally happy with the join of the tower to the walls.

All sash windows are constructed as per Peter Smith, which works well and the use of acrylic for the glass I find is better than the clear styrene I have previously used. It looks “flatter” and the framing is easier to fix without clouding.

For all apertures I slice through the covering paper at approximately mid point and then wrap the paper into the opening. The best tool I have found for sharpening the corners and adhering the paper to the reveal is the shaft of a 0.5mm Pentel pump pencil. (Retract the lead first to avoid accidental drawing of lines on model, and yes I have done this !)

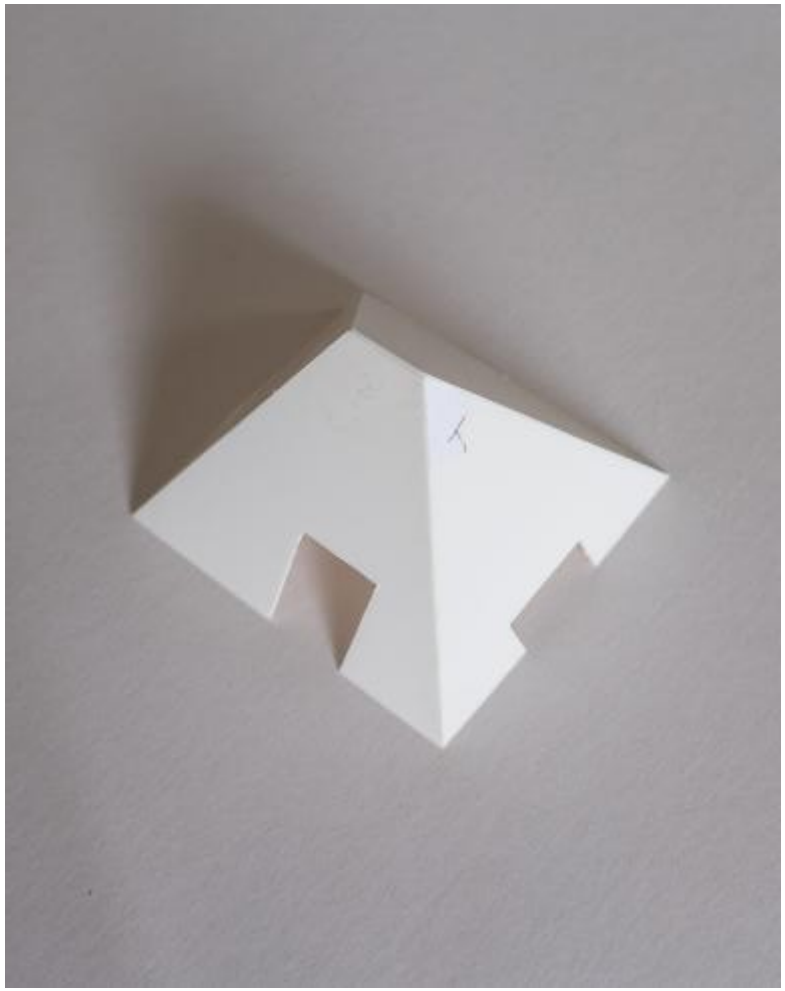


Once the papering of the walls and fixing of the windows was near complete I added black foam board partitions inside the build to eliminate see through (as the interior is not modelled).

Arching over windows etc is applied on top of the brick paper and the curvature obtained by slicing part though the vertical course work.

I felt like it took as long to model the chimney as it took to get the rest of the model to this point

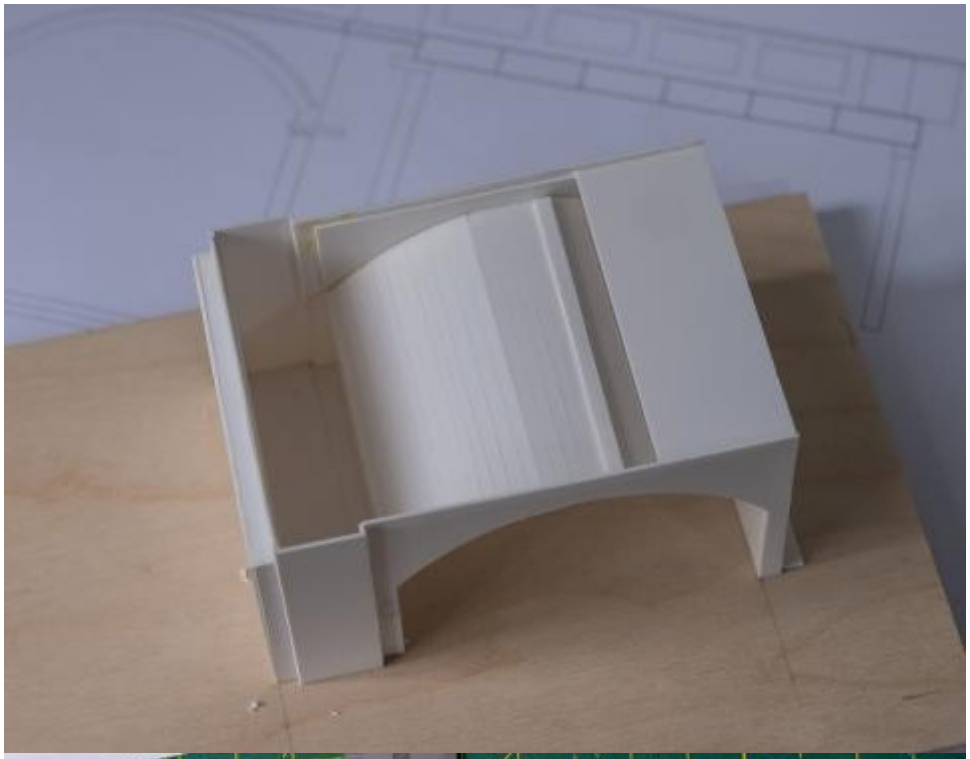
The top stack itself was constructed from two 6mm and two 3mm square plasticard sections bonded together. The ornate brickwork was then built around this core using various depths of plasticard strip. The top and bottom stonework was then fabricated from Plasticard. This was bonded to the lower rectangular stack and the whole papered. I would note here that where I consider papering too complicated, such as the underside of the stepped out brickwork I apply a coat of matt brick paint before papering.



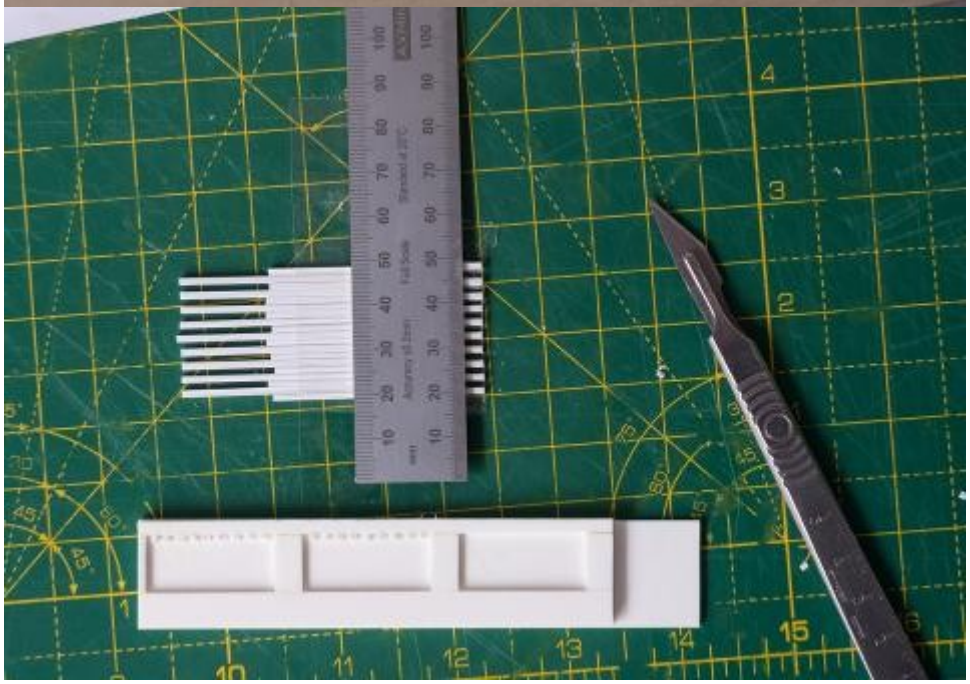
The roofs were a bit daunting at first but again, because I had the CAD work, I could use this to make templates, which proved surprisingly accurate for a first fit, with only small adjustments required to achieve a final fit.

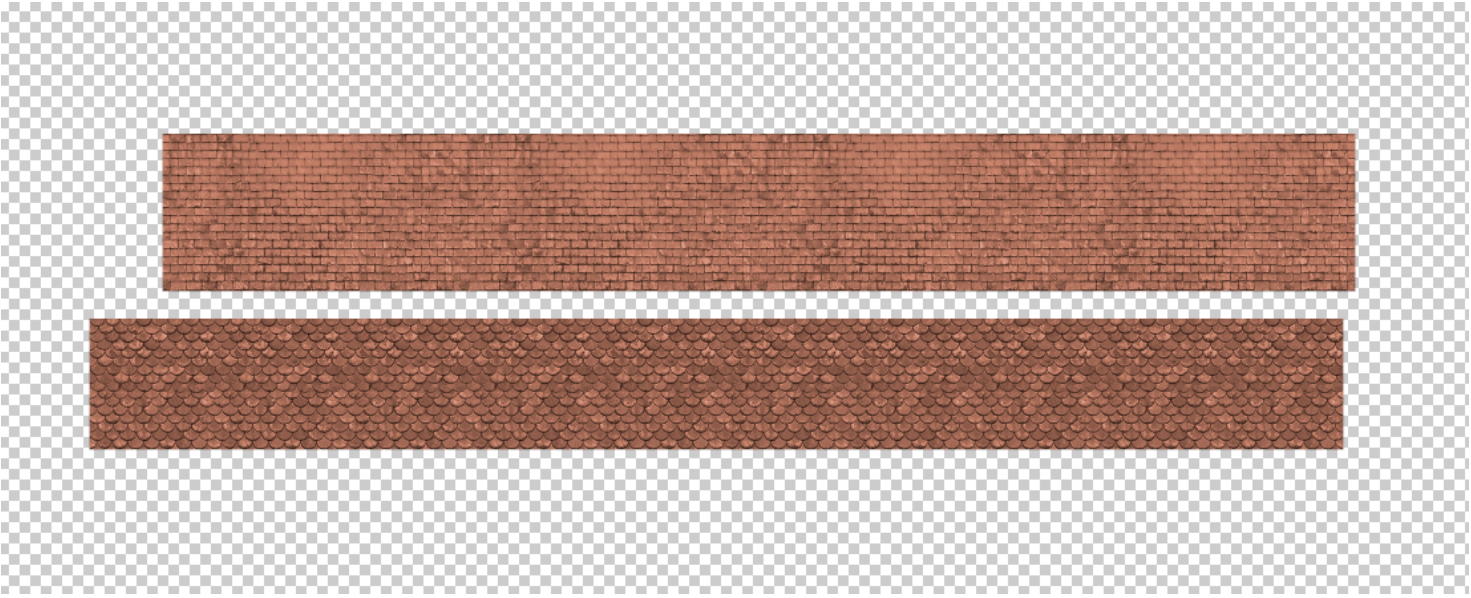
With the building side well advanced, work started on the approach bridge. The same methods were used for construction of the main structure.

You can note from the picture of the formed arch that I have scored the back of the arch roof. Even with 0.5mm plasticard I found this necessary to control the curvature.

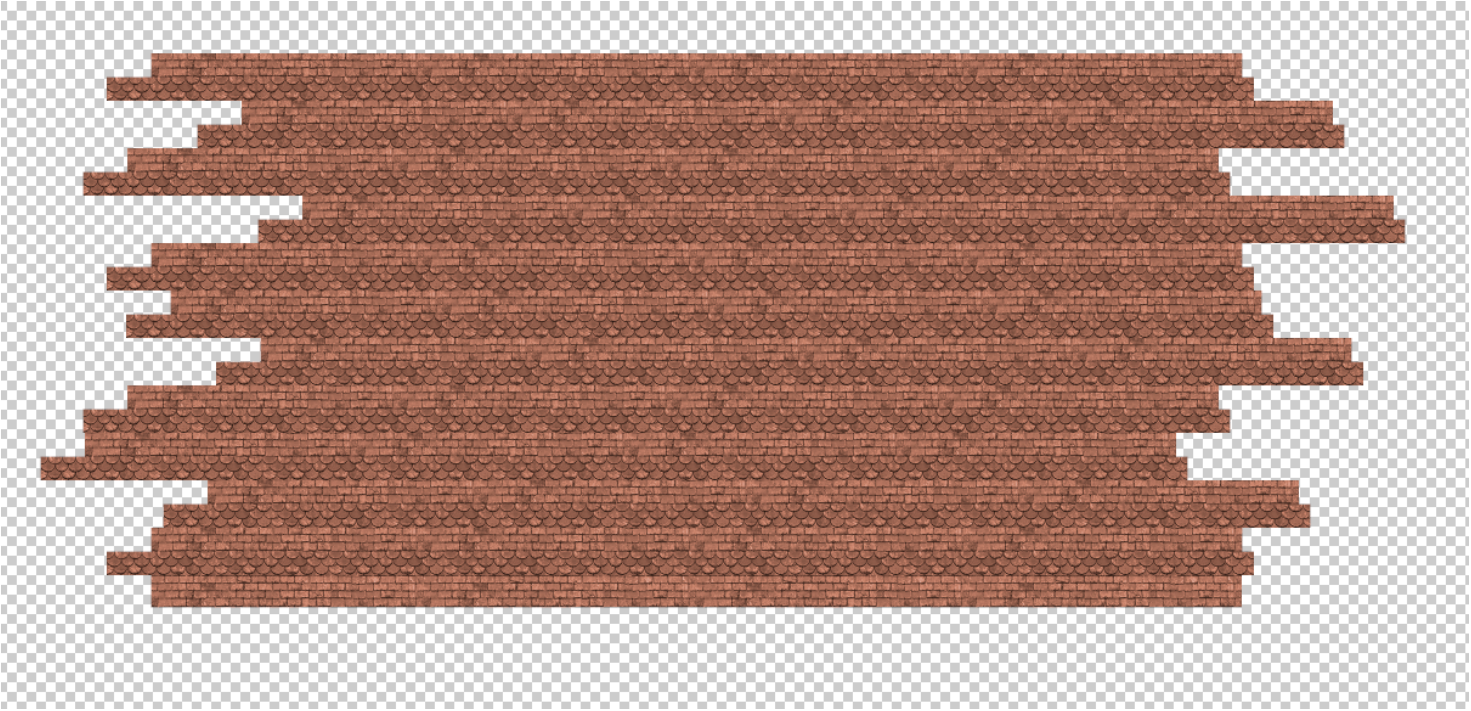


One feature / detail that is very evident from the photographs is the castellations at the top of the parapet recesses which I felt I need to preserve. All parapets are constructed from multiple layers of plasticard with any recesses formed in the outer layer. At first I tried to cut the castellation directly into the outer layer but found better success by cutting and applying them separately. I achieved this by taping offset strips of plasticard together and then slicing a row off and fixing it with solvent to the parapet. The tape holds them in position well enough with final positioning be done with the point of a scalpel.



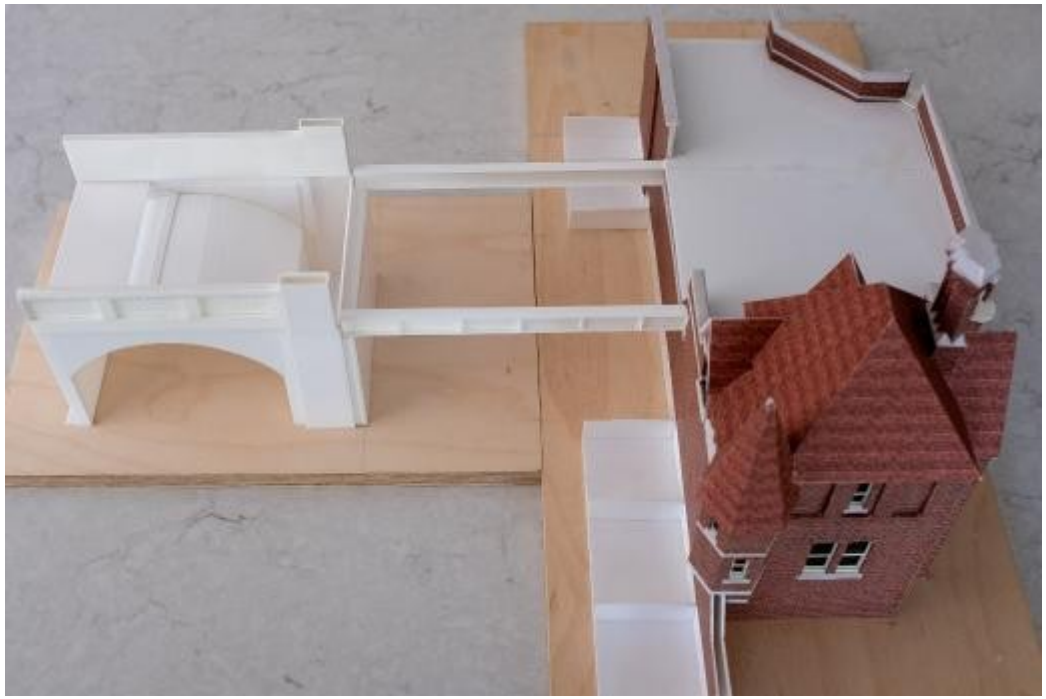


The roof tiling of this building consists of rows of rectangular tiles alternating with rows of scalloped tiles. I managed to find suitable images for both from cgtextures and was able then to form a composite by copying and pasting in Photoshop.



You will note that in the composite picture the rows are randomly staggered. This is necessary to avoid distinct “bandings” which are evident on the platform side roof face in the photographs at the end of the article.

Having applied the tile paper to the roof, the alignment of the bridge with the main building was checked and the supporting girders over the main line fabricated to size. These were made using various sized strips of plasticard.



Work then commenced on papering the bridge. You will note from the photograph the use of brick coloured paint at positions where I knew applying brick paper in all areas would be difficult.

The painting of girders and adding of the road deck to them brings us up to the current state of the model which can be seen on the following pictures.

The major pieces still to model are the bridge parapets, platforms and signal box after which the finer detail can be added. The whole model will then be tidied up to eliminate any white “gapping” / edges at joins and corners etc.

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More Locos for Plumpton Green

Barry Luck

Chris and I have been focussing on engine building for the past few months, and have added a further four to the Plumpton Green loco roster.

The two Terriers are *Stepney*, no 655 in Improved Engine Green, with wooden brake shoes, and no condensing pipes; and no 662 (ex-*Martello*) in later condition Marsh umber, steel brake shoes, and condensing pipes restored.

The brass body for Stepney was given to me a few years ago (a Vulcan kit I think), with a set of Mike Sharman wheels, but no other fittings, so is substantially scratchbuilt. Martello is a GW Models kit. Both have scratchbuilt fully compensated chassis, driven on the centre axle, powered by Mashima motors, and High Level Models 'Roadrunner +' gearboxes.


PLUMPTON GREEN
L B & S C R
662

The other pair are a C and C1 (both EBM kits) with fully compensated split-axle chassis. Both are driven on the centre axle using Mashima motors and London Road 50:1 gearboxes. The C is finished as no 405 in goods green and the C1 as no 427 in lined black.

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All four had their first outing at the Brighton MRC show in November, and I’m happy to say that all four performed well!

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Planning Singleton

Richard Jones

There is a well known say that “failing to plan is planning to fail”.

Well, Singleton has been in the planning for almost 10 years and may yet fail, but here is the planning so far…..

First the rationale…

My primary railway interest has always been light railways, specifically the Kent & East Sussex and Rye & Camber Tramway, but I had a hankering to build bigger engines, and the chance purchase of *Rails to Midhurst* (whilst visiting Petworth), started me looking at Singleton as a potential candidate for a model (despite the fact that I’ve never finished a layout yet!)

Singleton was the principle station on the line from Midhurst to Chichester, opened in 1881, and was built on an expansive scale with an eye to the traffic to Goodwood Racecourse – indeed it was very busy on race days, however there were not many of these and the rest of the year it returned to a state of near slumber.

The station site was on the lower slopes of Chills Down, with a retaining wall supporting two island platforms, connecting via a subway to the station building, whose roofline was level with the tracks. There was a large goods yard and shed which was busy even after passenger traffic ceased in 1935, two loading docks – invariably filled with horse boxes prior and following race meetings, a 45’ turntable, and two signal boxes.

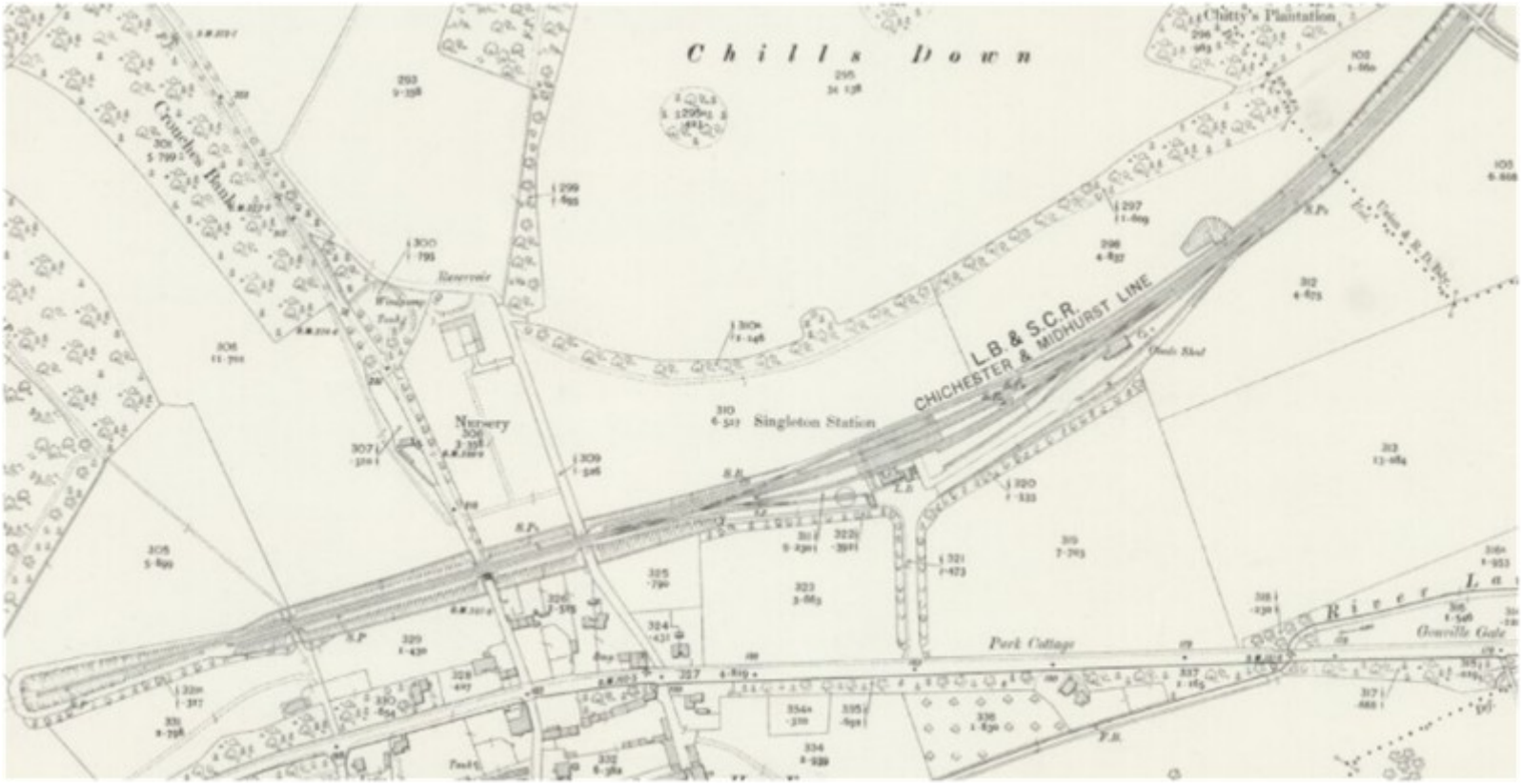
The turntable was removed in the early 1920s and the track simplified in 1933 leaving just a line

either side of the down platform and the goods yard, with access controlled by a key on the section staff – prior to the abolition of the two signal boxes, the signalman had to walk between the North box (block post) and South box (only manned on Race days) to set & reset the signals for the passage of each train in either direction!

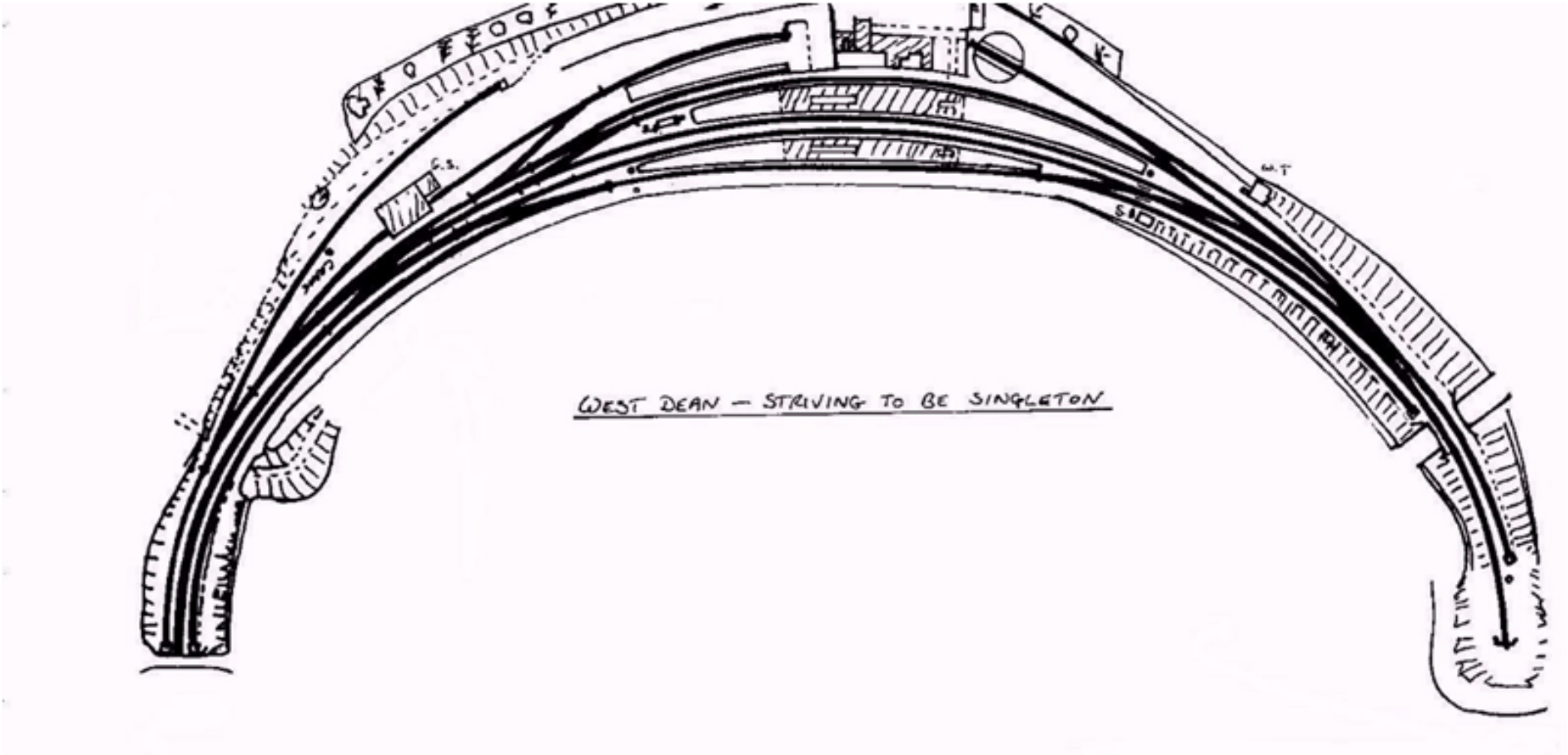
In the early 1900 it was the station most visited by the Brighton's Royal train, as "Bertie" visited West Dean House for weekends.

Operationally, as previously mentioned, there would have been a lot of horse box traffic associated with race meetings in addition to the "race specials" for the punters, though ironically the Pullman Race specials used the South Coast line and delivered their passengers to Drayton. The rest of the year the line was served by 2 push-pull sets, invariably drawn by a D1.

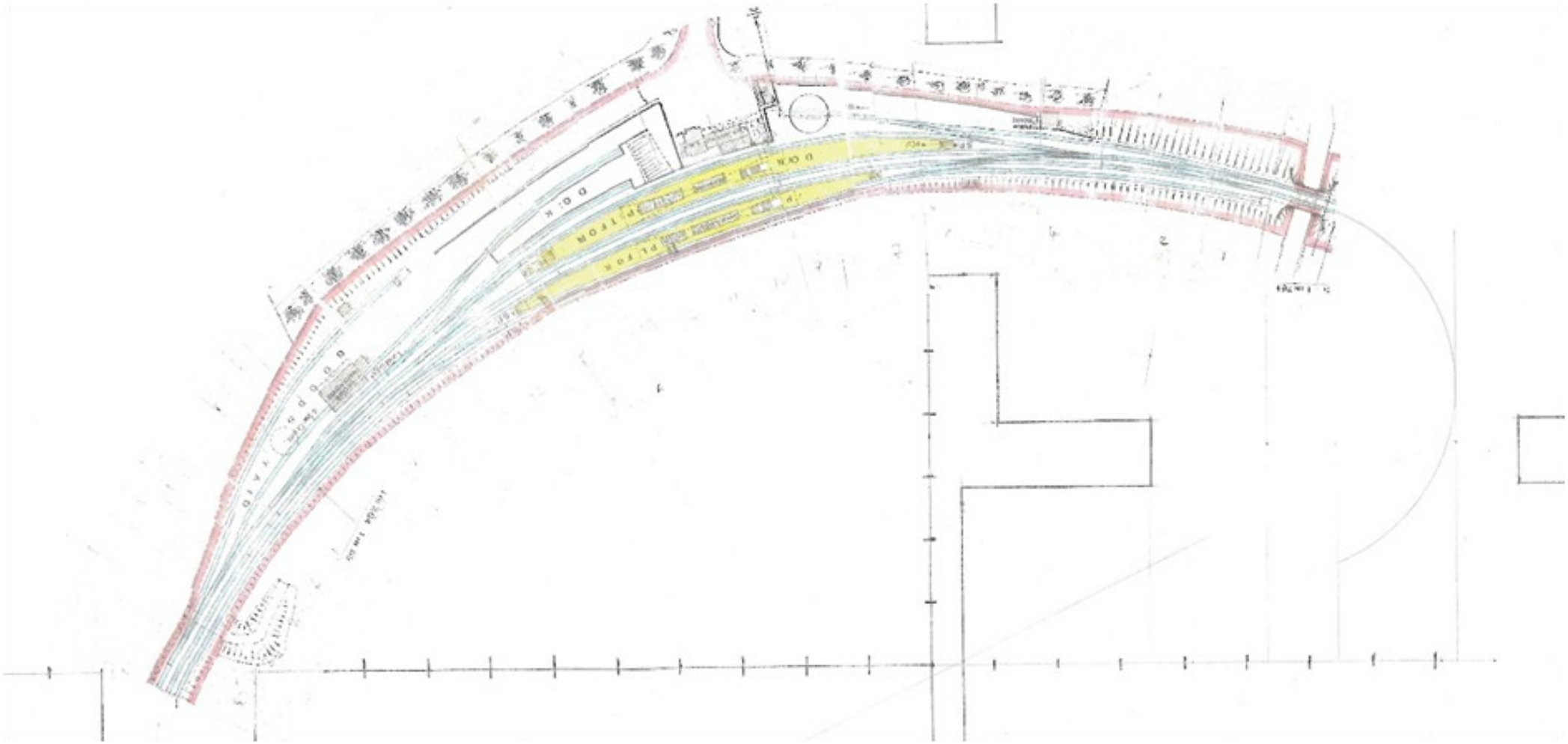
Singleton still is (apart from the lack of a railway!) a very beautiful station in an idyllic location – a quick look at the OS map shows it is a big site, so some "editing" is required to build a manageable model.



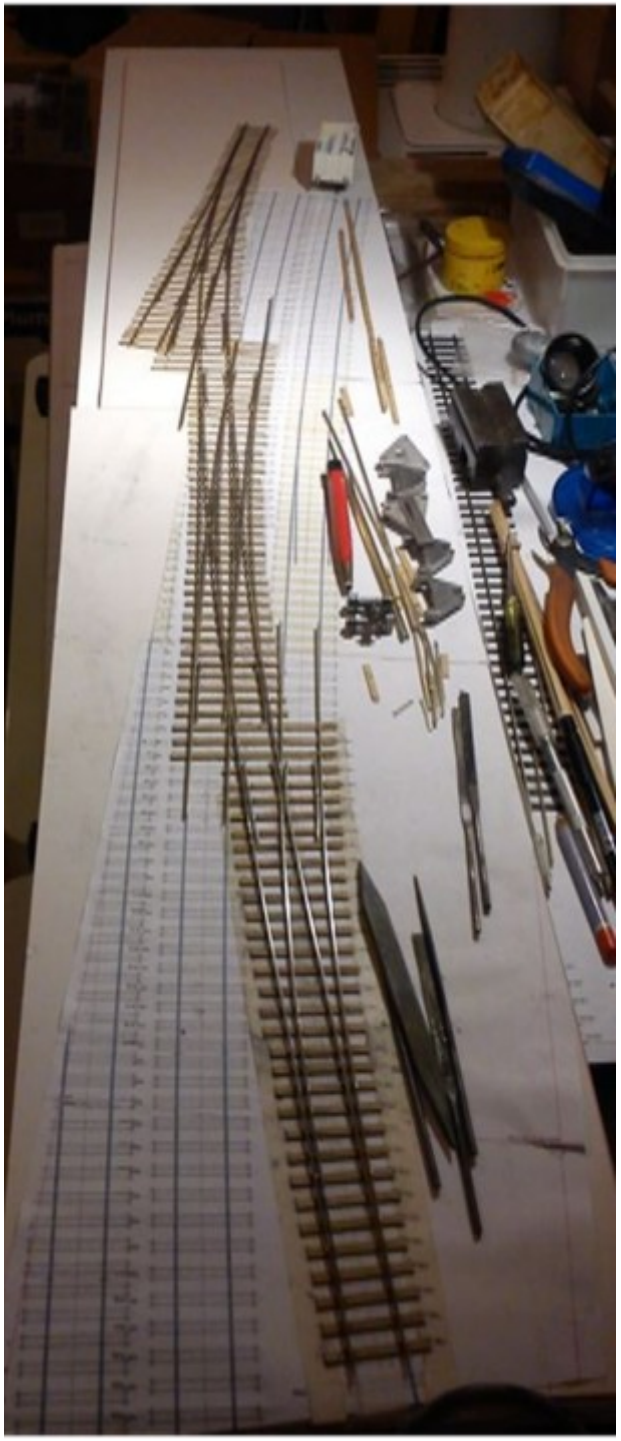
My initial thoughts were inspired by Chris Matthewman's "Striving", and curved to make it fit within the confines of our 18' x 12' living room (occasionally!) – I did not think it looked too bad on paper until someone asked whether I want to build "a model railway" or " a model of a railway"….



About this time we had the house extended, which literally opened up the possibility for a less restricted layout, which is the current plan.

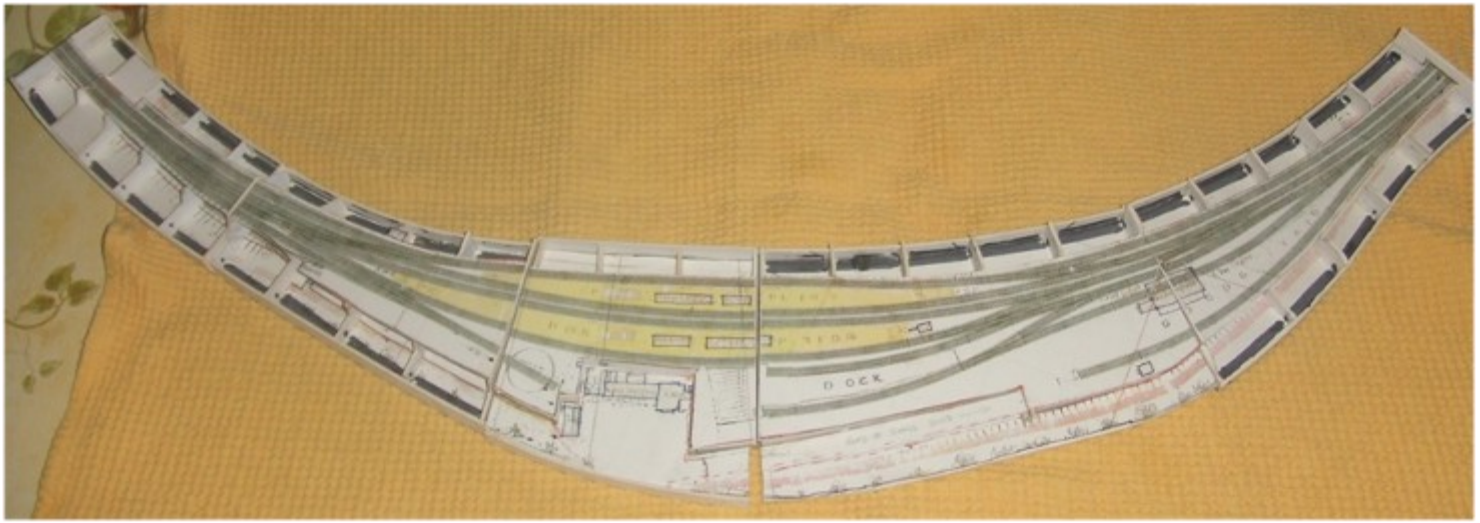


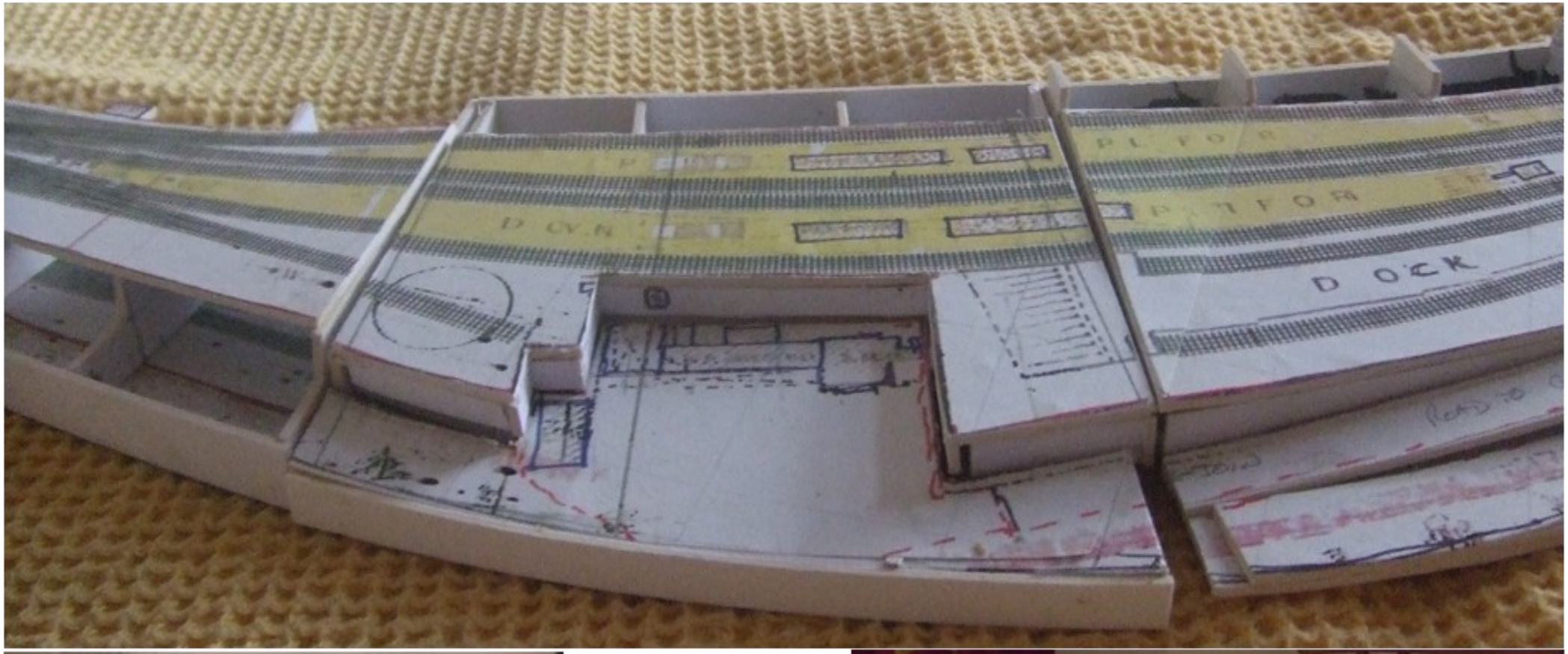
This scheme was developed by taking a nice coloured plan obtained from West Sussex County Records office and curving it (using cut & paste – scissors & glue) onto a ruling 15’ radius through the up platform – this was then scanned into Templot (in the days when you had to purchase the software) and the track layout overlaid. (the blow by blow account can be read at http://www.85a.co.uk/forum/view_topic.php?id=1010&forum_id=12)



At an early stage I decided that if I could build the double slip I could manage all of the point work, and started building “modular” sections of pointwork.

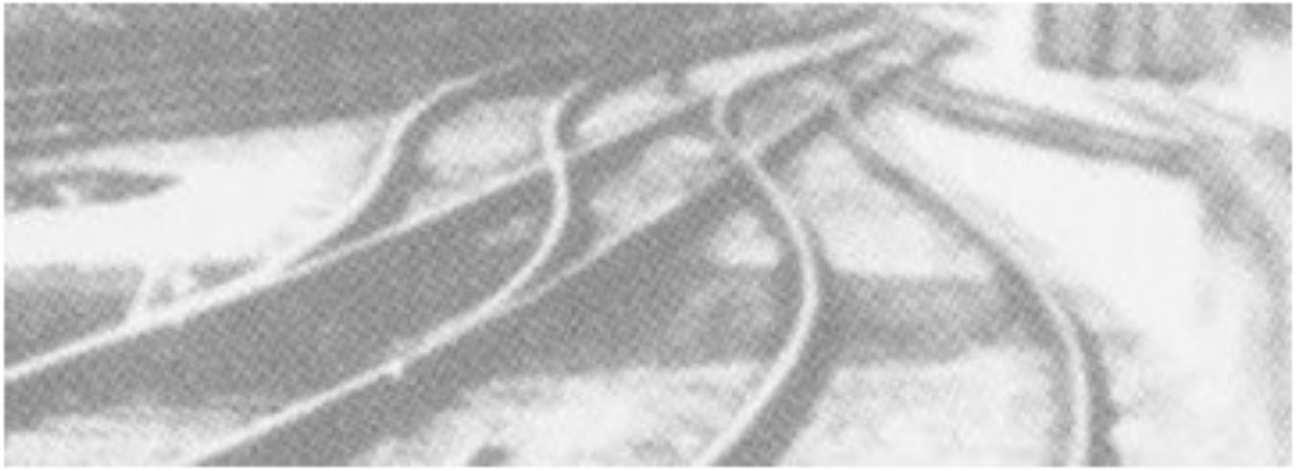
In addition to the full size templates, you can also print out at reduced scale and I used these to help design the baseboards and how these could be landscaped.

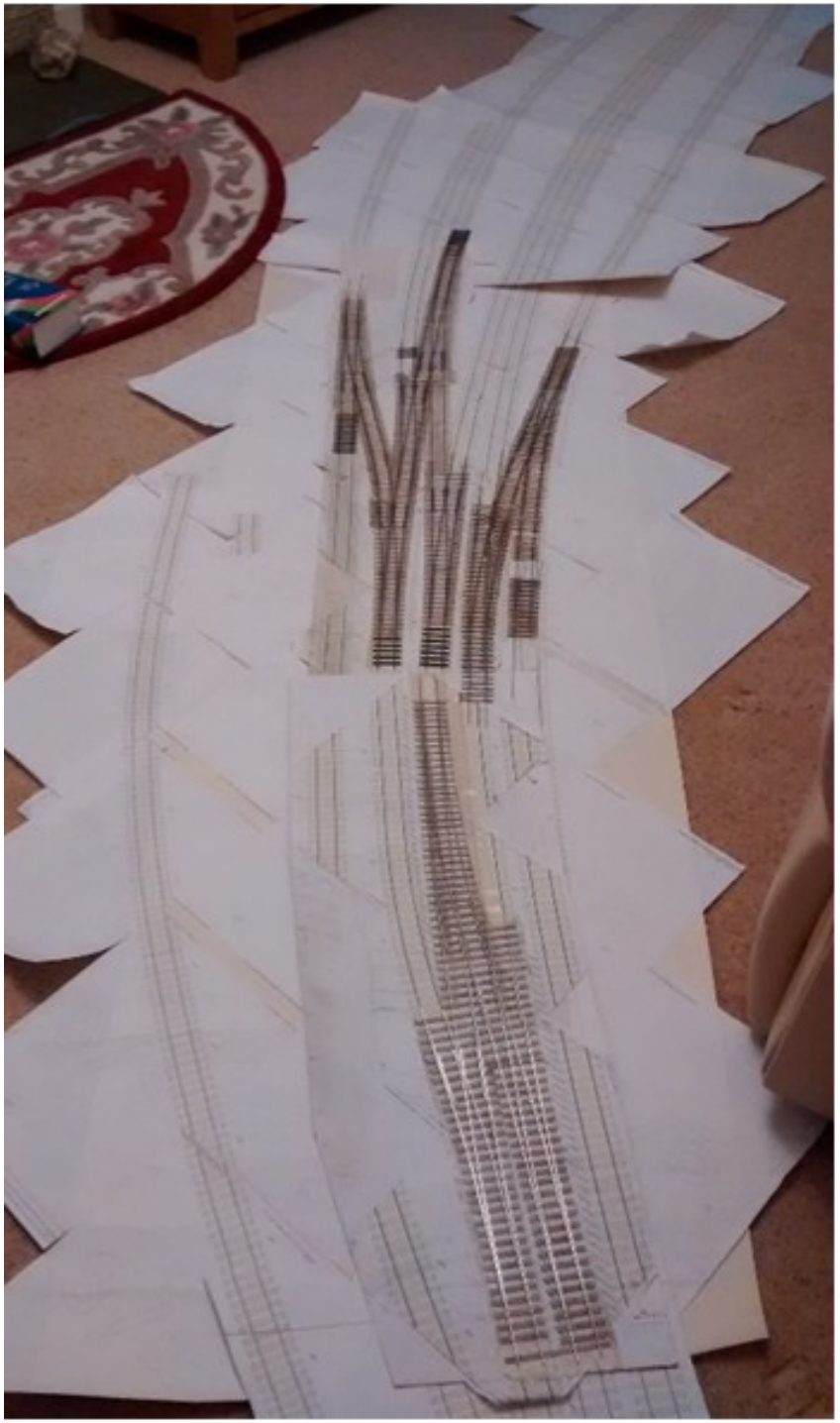




Some cardboard space models were also made up to get an idea what the finished model would be like.

Some issues of clearance were identified on my version of the laying on the down loop/loading dock, which can be sorted out much more easily at the planning stage…..





So that is where we have got to – pointwork built – next job is to build the baseboards – this is what it might look like if/when we reach the next stage…

And a ballast train to finish off the track….

For photos of Singleton, the Middleton press book and two subsequent volumes have proved invaluable, as have Southern Way issue 16, Brighton Circular Winter 2009 and East Sussex county records office. In addition Keith Smith lent me copies of the drawings, of which the originals are presumably "trapped" in the plan arch at Waterloo (I wonder if there are any more there that I haven't seen?), and Michael de Jong Smith kindly went "on safari" to provide some contemporary photos and resolve a feature identified on the OS map that was confusing me. For all that I still have not seen any photos of the turntable, and only one of the South signal box.

It had been slowly dawning on me, but it was only when I got the full size templates on the floor that I realised that (just perhaps) this is too big a project for one person to take on - time will tell - perhaps a few EM Brighton modellers near Wirral will put their heads above the parapet?

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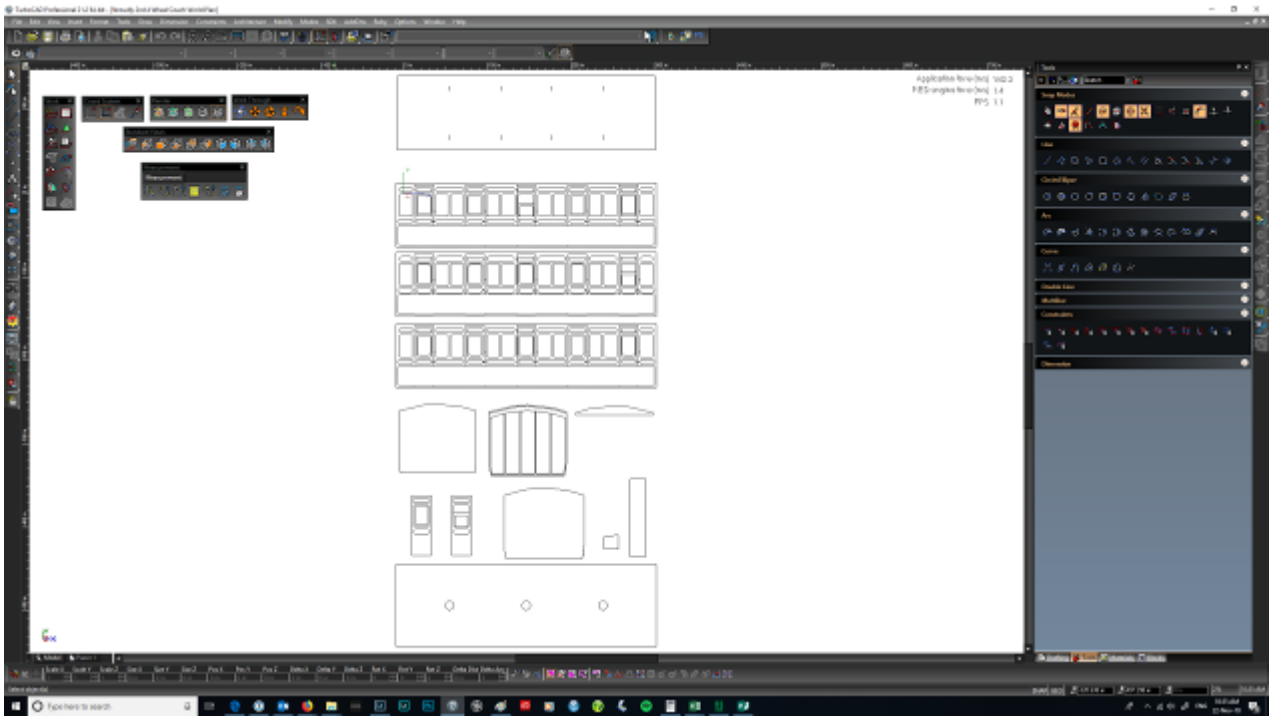
Model Making with a Desktop CNC Router

David Rigler

For a number of years I have been seriously thinking about purchasing a CNC Router for my woodworking workshop. The main use is to cut templates for my furniture projects instead of having to outsource them. Having once again trawled the internet this year looking for a suitable machine, I became increasingly aware of people using them for model making, particularly aero modellers, producing very fine looking parts. Having now another potential use I purchased a Stepcraft 600 from the UK distributor StoneyCNC. This model comes in kit form but you can purchase a built up machine from the manufacturer for considerably more money, and where is the fun in that!

In addition to purchasing the machine you also have to decide on and purchase the Spindle (Router) and software.

This article aims to be a snapshot to show a brief overview of the process flow, the machine's potential and some early learning.

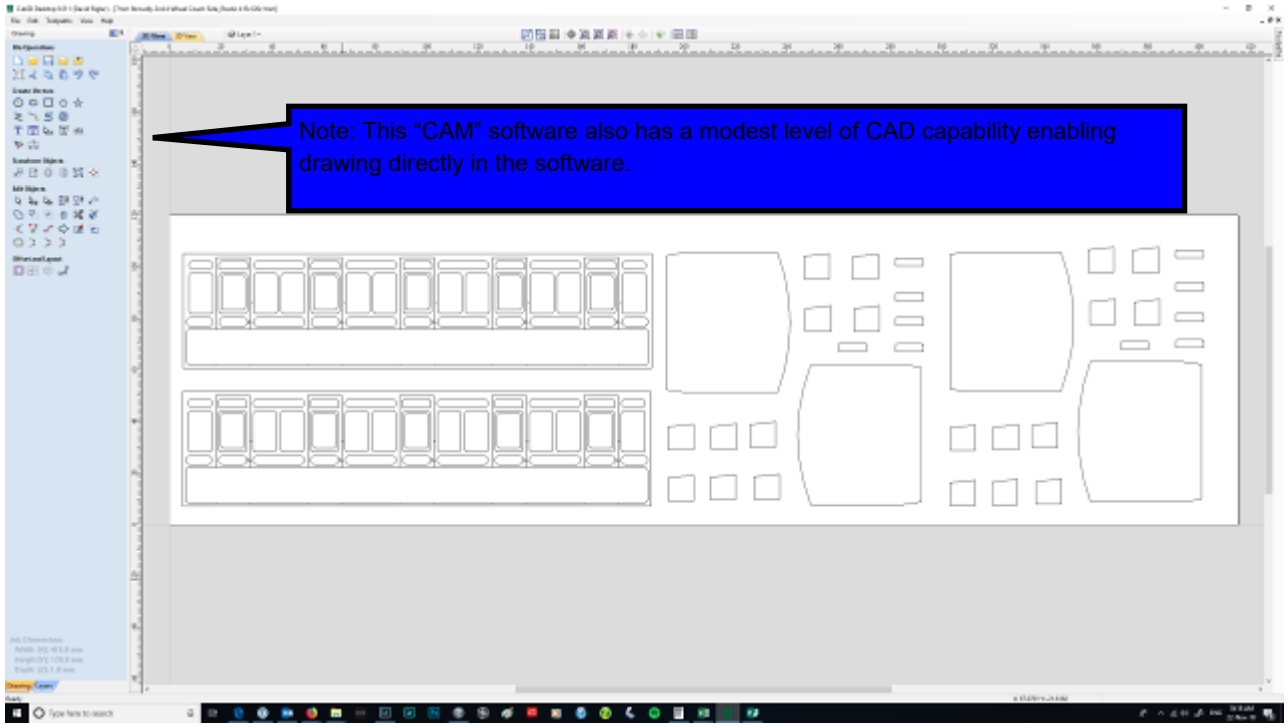


I use TurboCad for my CAD work and this screen shot shows all the 2D drawings for the components of a 2nd Class carriage body.

This file is then saved in DXF format to be compatible with the Vectric CAM (Computer Aided Manufacture) software.

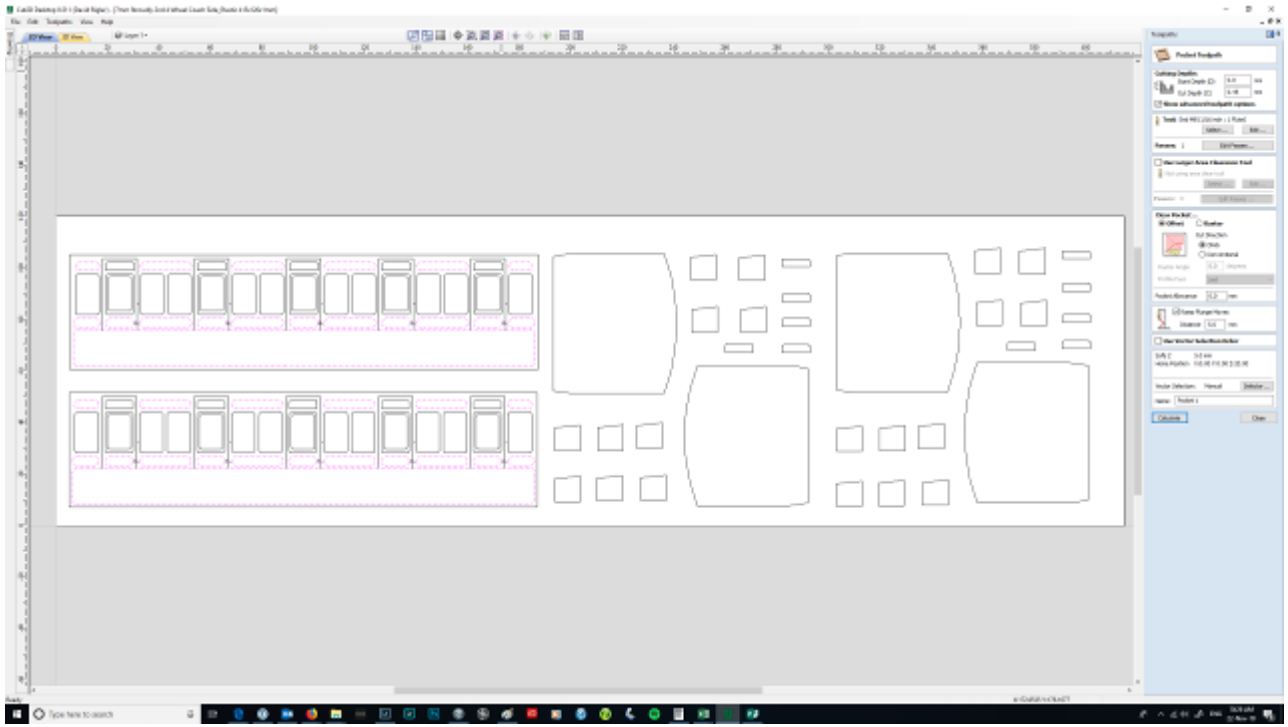
The Vectric software is used to generate the machine instructions for all cutting operations.

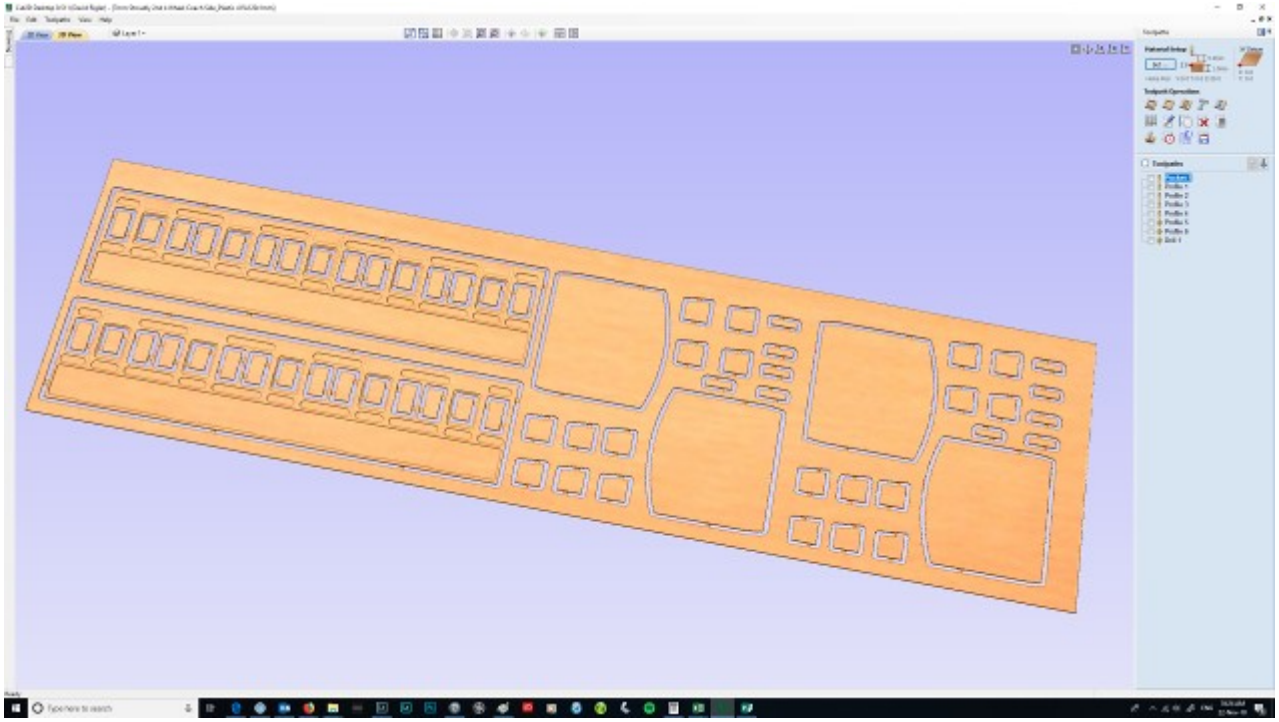
This is a screen shot of the Vectric Cut2D software showing the drawing window. The workpiece size is defined first and then the chosen vectors, imported from the DXF file, have been laid out on the workpiece.



This a screen shot of the Vectric Cut2D software showing the Tool Path window.

Here I am defining areas to be “Pocketed”. The selected vectors are in pink and I have defined the depth of cut to be 0.45mm. You also define the tool to be used and the way you want to cut here as well.

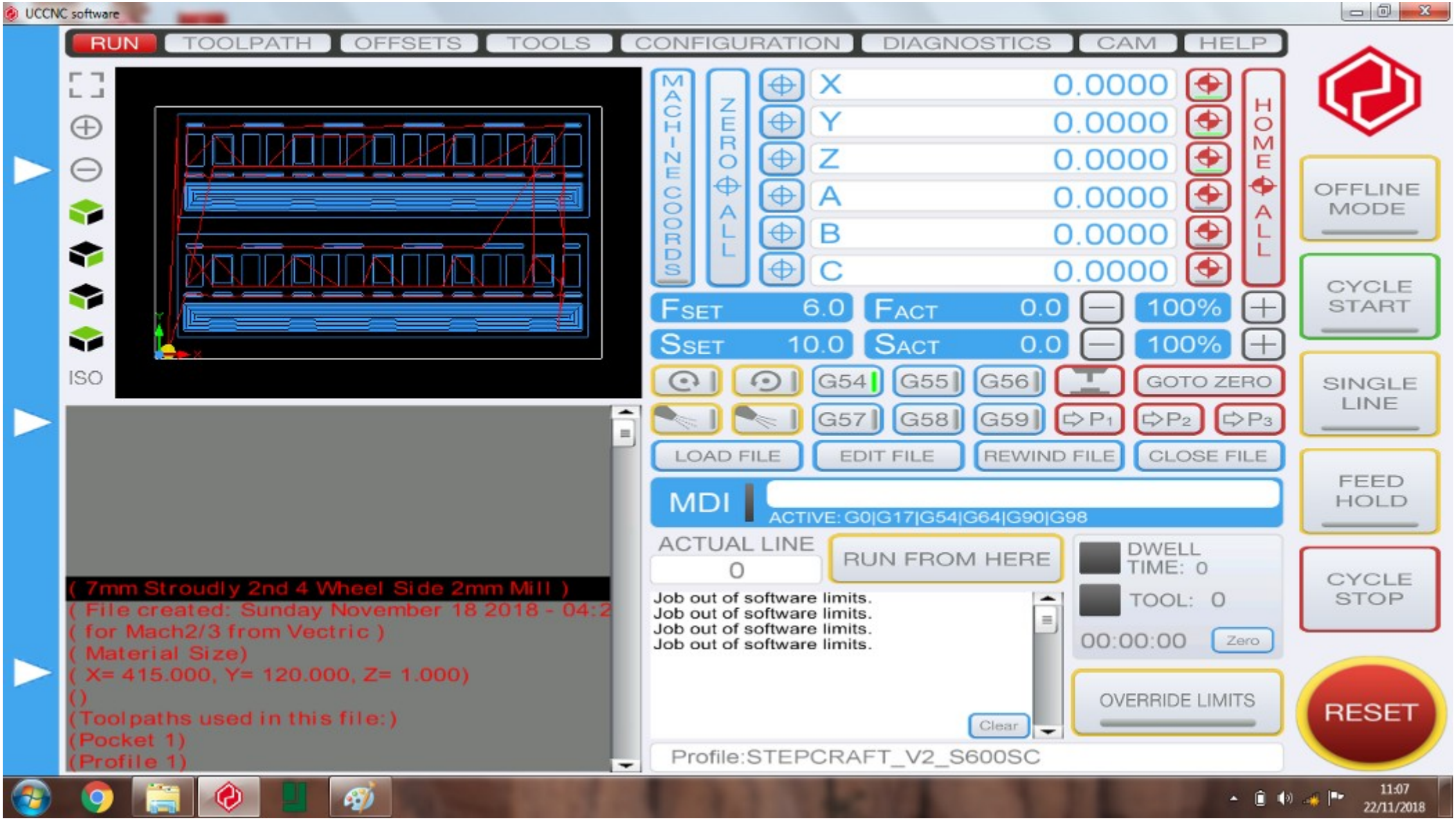




Still in the Vectric Cut2D Tool Path window and having defined all tool operations; Pocketing, Profiles, Engraving; and calculated the tool paths. A 3D simulation can be run to verify everything before committing to the machine.

Once happy, the tool paths are saved as machine instruction files.

This is a screen shot shows the UCCNC software. This software drives and controls the Stepcraft machine. Here you load the tool path files previously saved (just the paths for the carriage sides in this example). Once you have established datums, completed all checks, press Cycle Start and hope for the best!!



The first material I used was wood, having purchased some mahogany strips in 1.0 and 1.5mm thickness.

I initially spent some time familiarising myself with machine operation and determining best tool speed and feed rates by cutting simple rectangular pockets in wood.

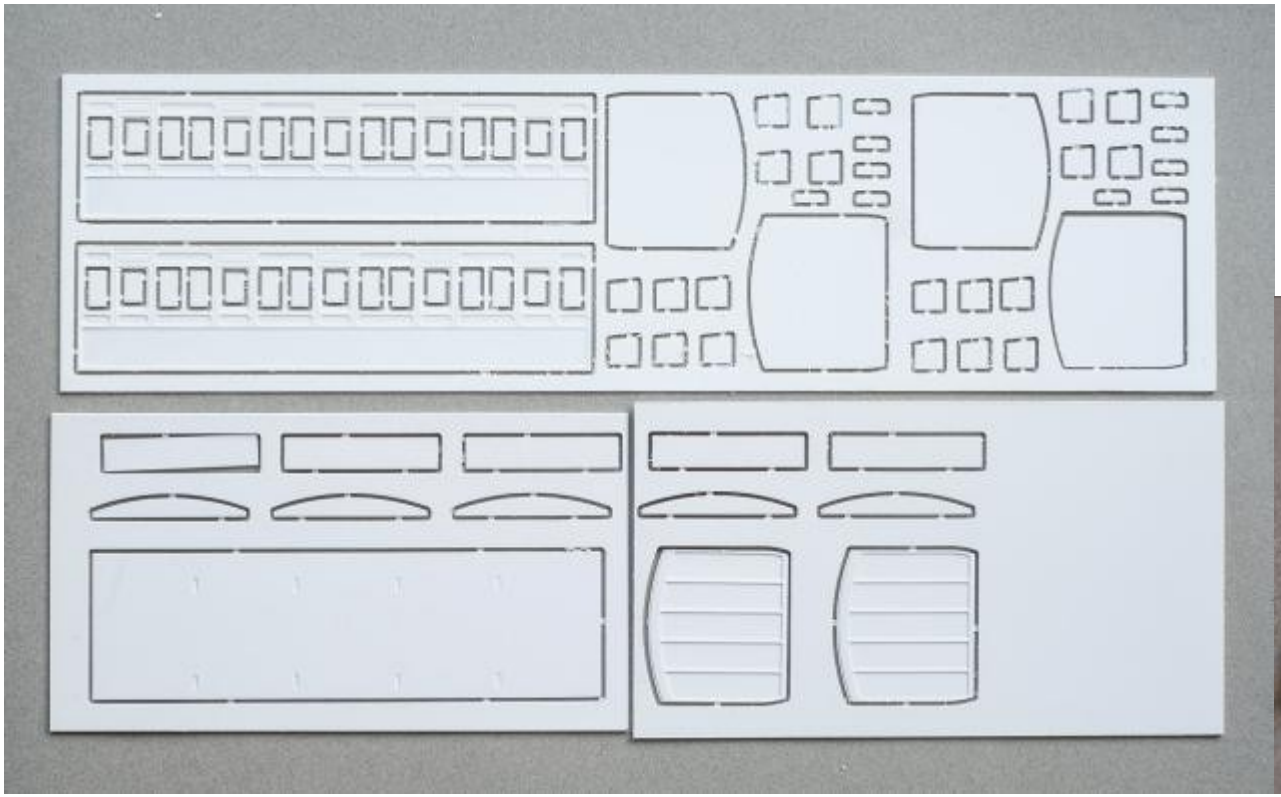
Having a lot of data on the Stroudley 1870's 4 wheel carriages, I selected this as my first proper trial. I decided to work first in 7mm Scale rather than my normal 4mm, as this better matched the tooling I had (2mm end mill, minimum radius 1mm).

My CAD work is always in full size units so conversion to any scale is easy

The carriage sides require two operations. The first is milling the panels and profiles, followed by a tool change to a 60 deg Engraver that then scribes the door openings, door ventilator positions and then spots the handle and grab rail hole positions for later hand drilling.

I then went on to experiment with Plasticard. Early attempts were not good, the main issue being melting of the material causing poor surface finishes and edges (Top right). This was rectified by purchasing a single flute mill, designed for cutting plastic, together with tuning of the cutter RPM and Feed Rate. These two parameters are important to optimise for all materials but particularly crucial for plastics.

The fret pictures show the latest test with optimised tool and speeds together with clamping frame and 3M 75 adhesive to hold material firmly. Overall a very good result although light tool marks on the panels are more evident than with the wood.

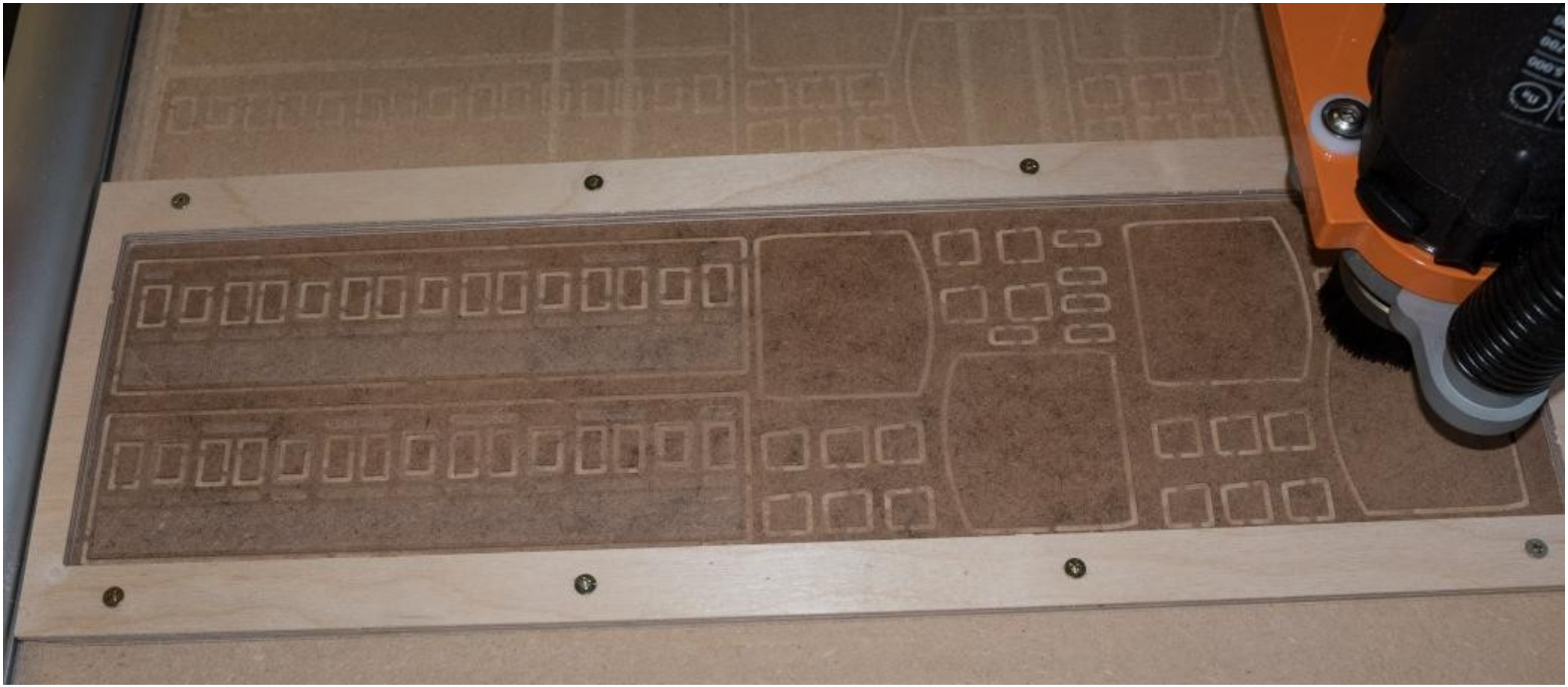


Once these were set I achieved good results. There are some light tooling tracks on the panels which I need to eliminate.

My third set of trials was with MDF. This can be cut faster than the Mahogany but showed slight tooling tracks in the panels more evidently. These are easily removed with a little fine wet and dry.

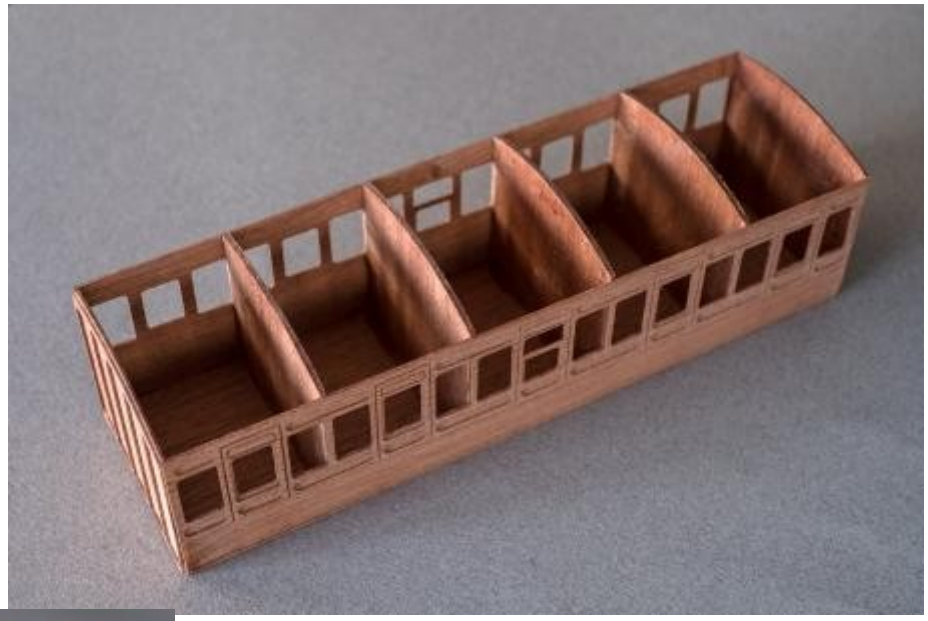
The picture also shows improvements in clamping of the workpiece. The frame was quickly made on the machine from a simple CAD drawing.

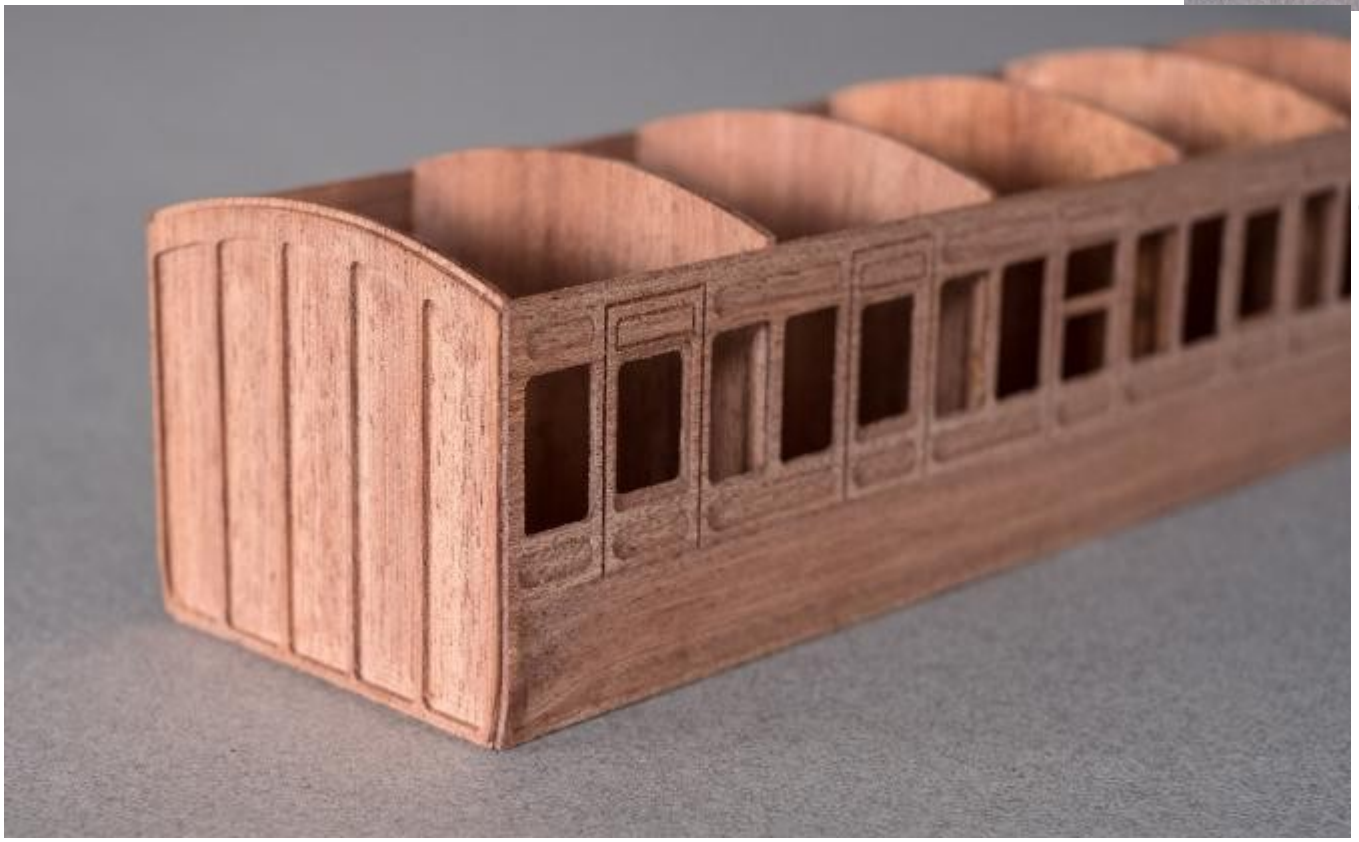
Memo: The small components are seat bases and door vents.



So far I have only assembled an early mahogany version and the Plasticard version, with the latest refinements including reduced partition thickness to 1mm to keep them inside the window openings.

I really like the look of the wooden version. Clearly the grain is a “little” overscale but maybe it appeals to my love of wood. Trials with closer grained woods are on the list.

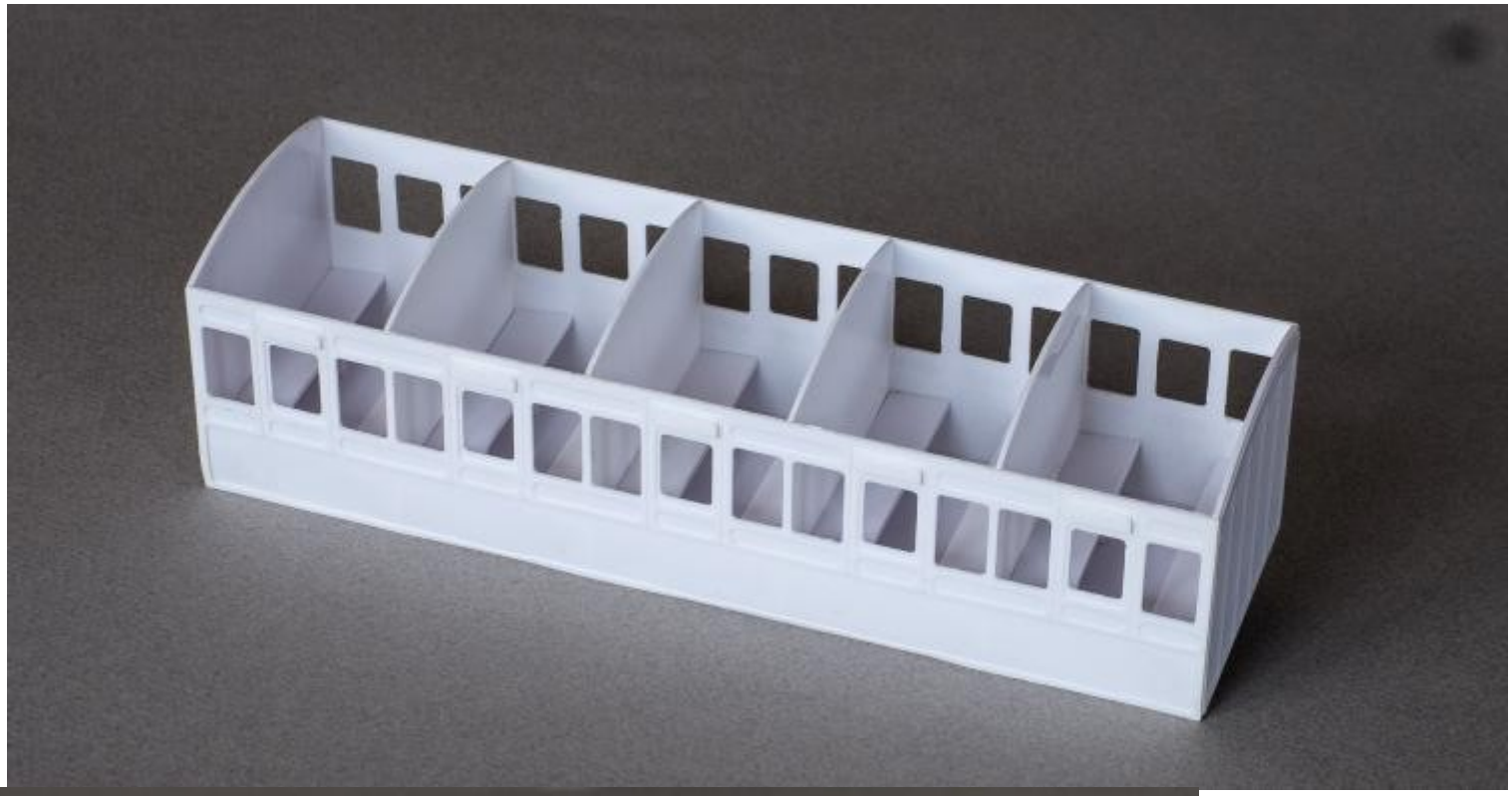




The other problem this has presented is that I now love 7 mm scale. Should I now switch after all these years.,build a string of carriages, buy a Dapol Terrier and and….

Plasticard version seats and ventilators in place.

Cleaning up of openings and lower door definition using thin strips representing weather seals still to be completed.



Some early lessons learned:

- The workpiece must be firmly held down all over, particularly for these thin materials. I am trialling 3M Removable Double Sided Tape and 3M 75 Repositionable Spray Adhesive.
- The machine is accurate to +/- 0.1 mm, however to ensure this accuracy in the vertical direction (Z) it is essential to level the worksurface (MDF sacrificial spoil board) by running a simple program to plane the surface with a large diameter cutter.
- The end mill I started with was a 2 flute upcutting end mill. This caused the edge at the top surface to splinter a little and also pulls the material upward, if not firmly held down, causing variation of cut depth. I purchased a 2 flute downcutting end mill and this dramatically improved the cut finish and also pushes the material against the spoil board. Downcutting tools don't clear the chips as efficiently but this is not an issue with thin materials.

Technical Data:

- Machine—Stepcraft 600
- Spindle— AMB (Kress) 1050 FME-1
- Tool path software (CAM)—Vectric Cut2D Desktop
- Machine Control—UCCNC Software and License

Memo: There are other choices of spindle and software.

I chose a spindle that will be durable and can run for extended periods of time. (A Proxxon Drill/ Mill is cheaper but should not be run continuously).

I chose software that had a good level of functionality and stability. (WinPC can be used and is cheaper, but limited in functionality). This link gives a useful comparison.

http://stoneycnc.co.uk/stepcraft-software-faq/

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Steam Sounds Supreme LBSCR Class E2 – A review - More Train Simulator Meddling

sem 34090

Although not known for being the most notable loco class ever built, the LBSCR Class E2 has a large following because of its alleged use as the basis for a certain blue 0-6-0 (and I don't mean a Caledonian Railway 782 class)! As such, a model was created for Train Simulator by James Horrex and introduced in 2016, with the sounds produced by Steam Sounds Supreme (SSS). The loco is currently sold through the Steam Sounds Supreme website, priced at £12.25.

http://steamsoundssupreme.com/page_lbscre2pack01.html

As standard, the pack includes five liveries - LBSCR lined goods black, LBSCR passenger umber, SR lined goods black, BR black (early) and BR black (late). As nicely applied as these liveries are, I cannot help thinking that an unlined SR Black would be somewhat more useful than the LBSCR passenger umber, which is both of a somewhat questionable shade and entirely fictional for the extended-tank version that is modelled. The other liveries, however, are very nicely executed though the red sides to the footplate on the LBSCR black version mystify me somewhat.


L E S C
SOUTHERN RAILWAY
PASSENGERS
MUST NOT CROSS
THE LINE HERE


SOUTHERN


32106


32105

With regards to the loco's actual shape and appearance it certainly looks the part, with nice particle (steam) effects that vary with regulator position, reverser position, how empty/full the boiler is and how much coal is on the fire. The physics feel 'right' for a loco of this size, and the sounds are fantastic, I believe they were recorded from E4 No.473 at the Bluebell Railway, with a variety of whistles. Another nice feature with the sounds is the fact that they change with speed, regulator and reverser settings, rather than the simple repeating 'drumbeat' of some train simulator locos, making for a loco that is very enjoyable to drive. There is also a very nice level of attention-to-detail on the E2, with its fully animated and detailed inside motion, and a custom set of crew models, and it was with the crew that one tiny, but rather nice, detail caught my attention – the crew's caps actually bear an LBSCR Loco Department cap badge, which is fully legible.

Moving inside the cab, there is a decent degree of functionality, with many of the controls being operable, even down to the cab windows and doors being openable. The cab also has a nice ‘used’ textured finish, but is light enough for you to see what you are doing with ease. As far as I can tell, it captures the original well and it is certainly interesting to try and shunt Southampton Docks using the screw reverser in that
slightly awkward position!

Overall. I think that the E2 is a very nice, and very welcome, addition to the (very) slowly expanding pool of LBSCR locos for train simulators, and is also useful in providing further authentic motive power for the excellent Southampton – Weymouth (1950's/1960's) route that is available for free on SSS, given that it seems the E2s worked the last of their days in and around Southampton Docks. My only real criticism of this pack is the choice to include an inauthentic LBSCR umber livery when an unlined Southern black livery, possibly Bulleid's 'sunshine' scheme, would have been far more useful. At £12.25 it is at the slightly pricier end of the train simulator 'small loco' market, being more expensive than the Bulleid Pacific or Terrier (Main) Packs available from SSS, and whilst recommended heartily, I would suggest waiting until it is reduced in a sale prior to purchasing.

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18 and 21

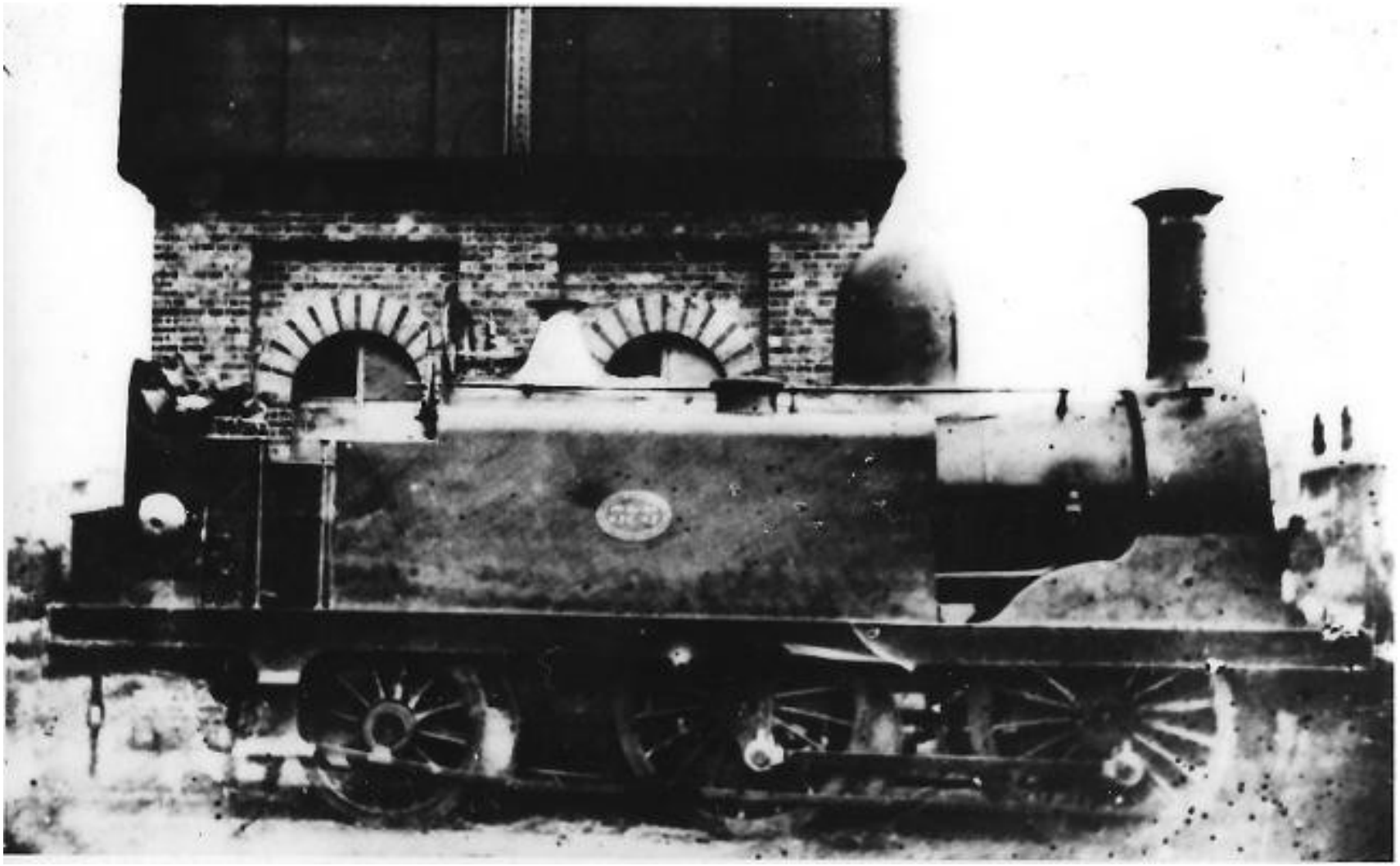
A Craven legacy to Stroudley

Eric Gates

A casual visit by Mike Waldron ended up with him departing, carrying the photo and drawing of the pair of foundlings that Stroudley discovered part-built on his arrival at Brighton. Nos 18 and 21 appeared in 1871 as 0-4-2 inside framed side tanks, although the drawing shows the original plan for double framed saddle tanks – so this is one of those cases where the works drawing has to be taken as a polite suggestion, rather than a definitive statement. The drawing by Burtt and a pair of photos are the only sources to show what actually appeared and these leave some interesting questions about aspects of the construction. Nothing daunted, Mike obligingly set about reproducing the pair as an etched kit, which makes for an interesting change from all those standard Stroudley designs. In fact, they form part of a fascinating transition phase between the experimental approach of J C Craven, establishing the basic principles of loco design, and the standardisation of William Stroudley, which produced locos that are still with us.

Construction of the model follows well established principles of etched kit design (or at least Mike's etched kits) and the attached photos will indicate stages of the progress. These were not always in an entirely logical order, as I had plenty of time to build the body and to do soldering whilst sitting in the sun, but I did not have the means to build the critical bits of the chassis in parallel. However, the following points may be worthy of elaboration.

One of the things that you cannot see in a side view is the layout of the side tanks. We know that these were Stroudley's idea, since Craven had intended to build saddle tanks. And we know that the standard Stroudley design fitted tight up to the boiler at the top and used a strap across the top of the boiler to hold the assembly together. However, we also know that the Stroudley firebox lay flush with the top and sides of the boiler, whereas 18 and 21 featured a typical Craven raised firebox that stood higher and wider than the boiler. If the sidetanks were to follow the normal Stroudley pattern, they would have needed a step on the inside face to align first with the firebox and then with the boiler. Alternatively, the typical Craven sidetank often seems to have stood clear of the boiler and to have had a simple rectangular section.

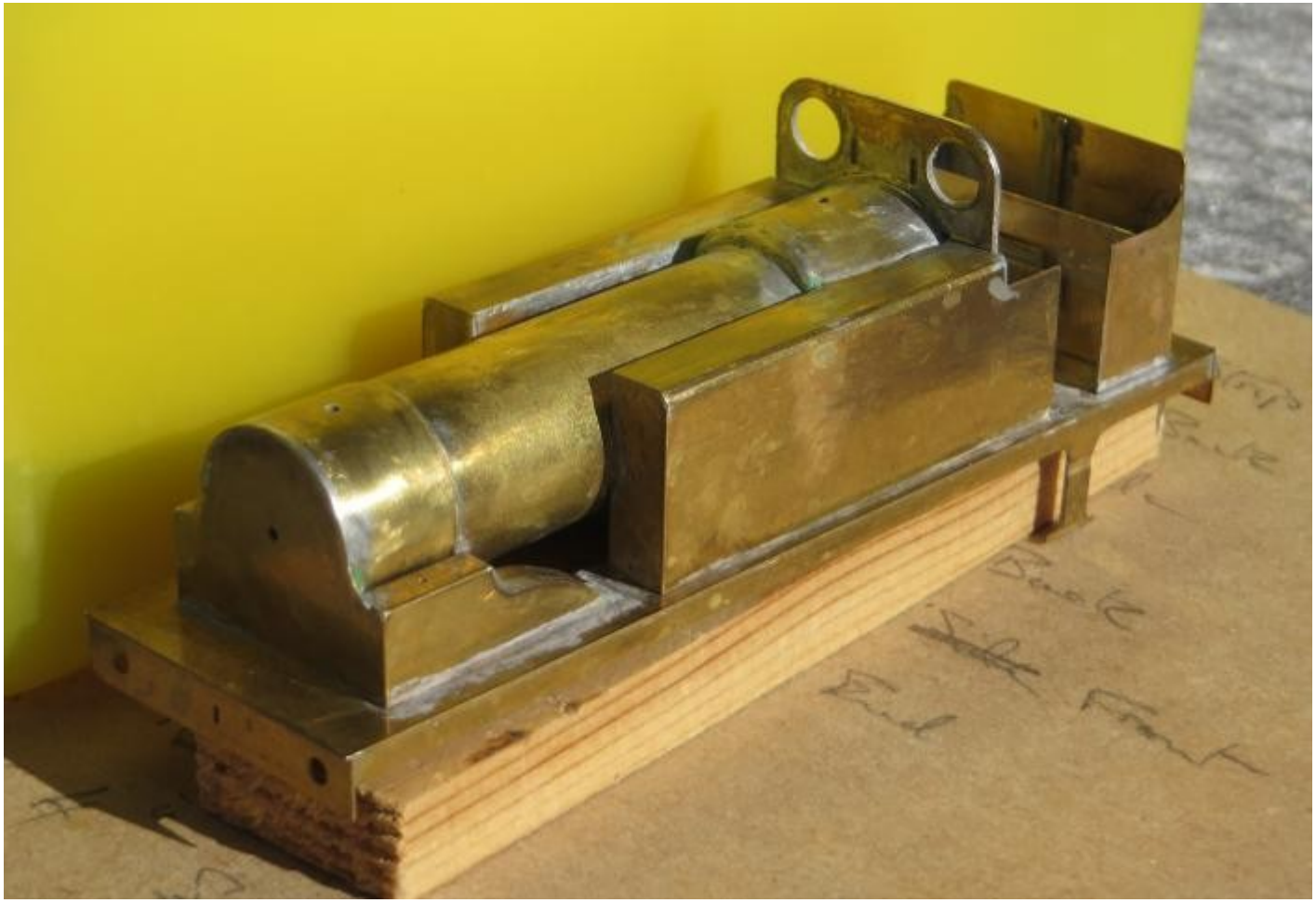


On the other hand, these tanks have the curved top edge that became a standard Stroudley feature on all his tank locos. On the Terriers, Ds and Es, this was because the locos were fitted with condensing gear, which heated the feed water to the point where it would have blistered the paintwork. The curved top was part of a cladding sheet, spaced away from the tank, with a cooling space between it and the tank. On this pair, however, there was never any condensing gear, so the curved top should have been part of the tank itself.

Mike's kit makes provision for the tanks to be built either way and my personal choice, after a lot of thought, was to have the tanks standing clear of the boiler, in the way that earlier Craven tank engines had done. For me, the clinching argument was put by John Ritter, who pointed out that the water capacity for these locos was actually quite limited and would not have required very wide tanks, given their visible height and depth. It did cross my mind at the time that this was the beginning of a slippery slope – and so it proved.

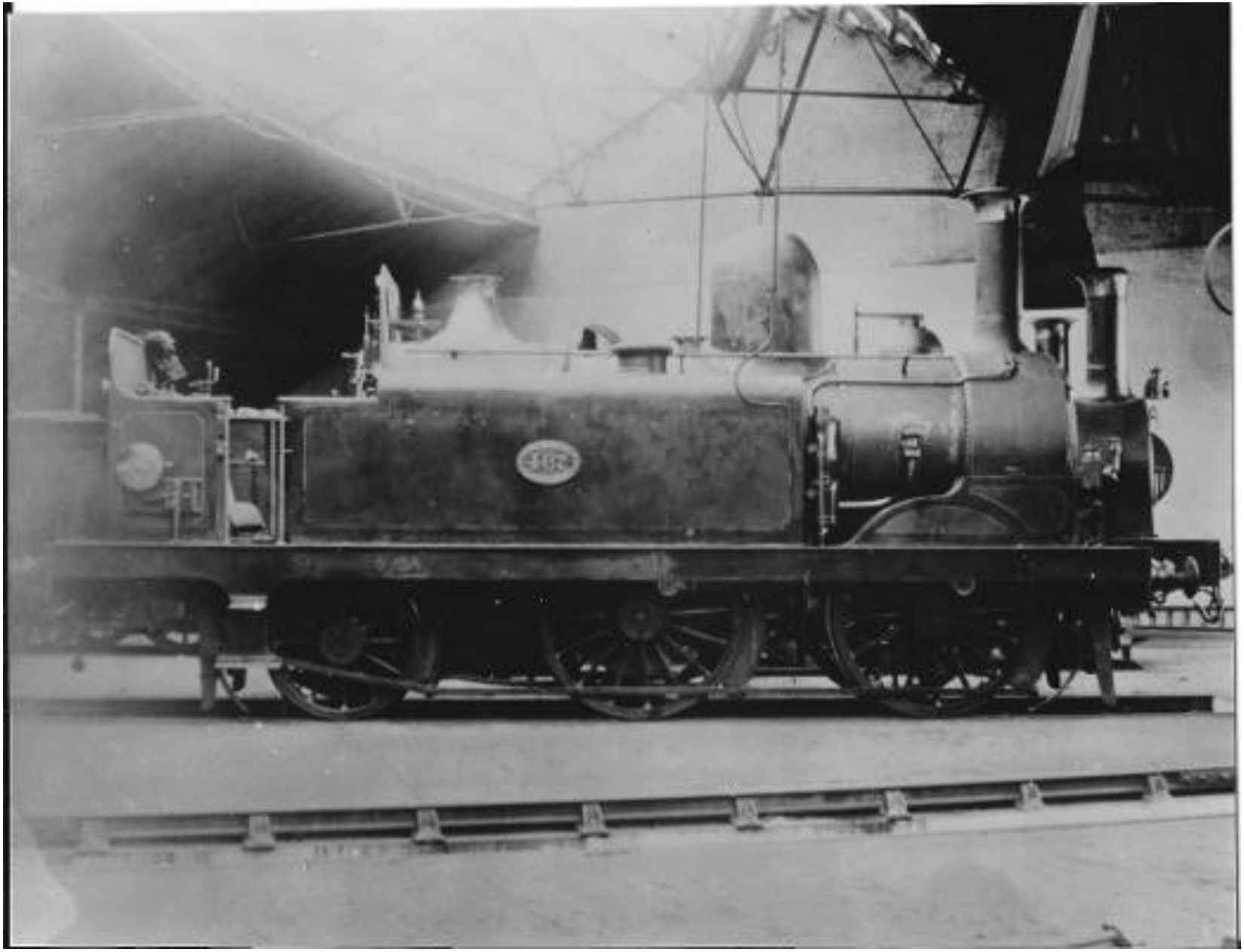
What follows is one of those cases of "do as I say, not as I did"; what I did involved a fair amount of unpicking

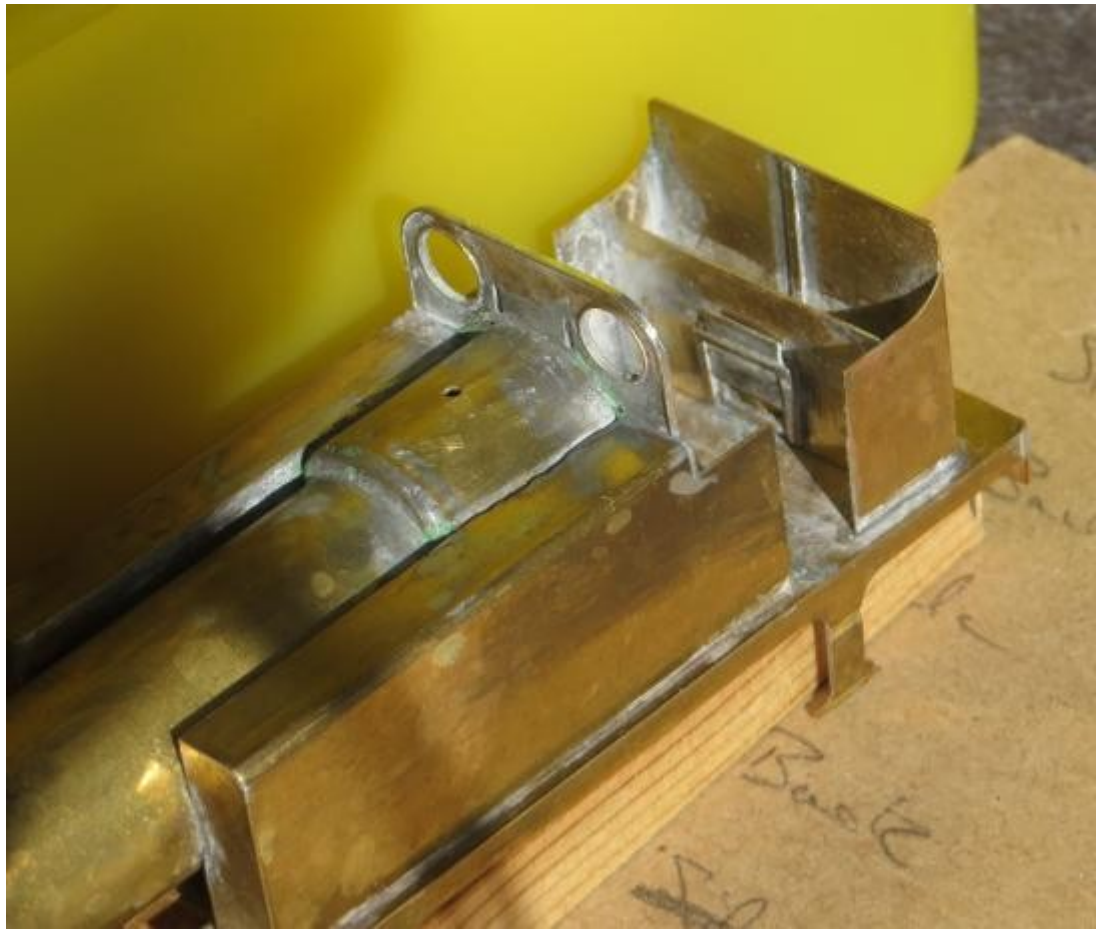
and rework before I got to a solution with which I was comfortable. I would remove the half etched section of the tank top and carry on all the way to the back of the side tank. Find a couple of pieces of scrap fret 40mm x 7mm and simply solder these in place to form the inside face of the side tanks. My suggestion would be to ignore the etched parts that are provided to create the inside faces of the side tanks, as I found that they were too short and were never intended to extend to the area of the firebox. Also, when you trim the tank fronts to shape, **don't** throw away the small triangular pieces: keep them and use them to fill in the front of the firebox at the rear of the tanks. This will give you the material to complete the inside of the tanks and the front of the firebox.



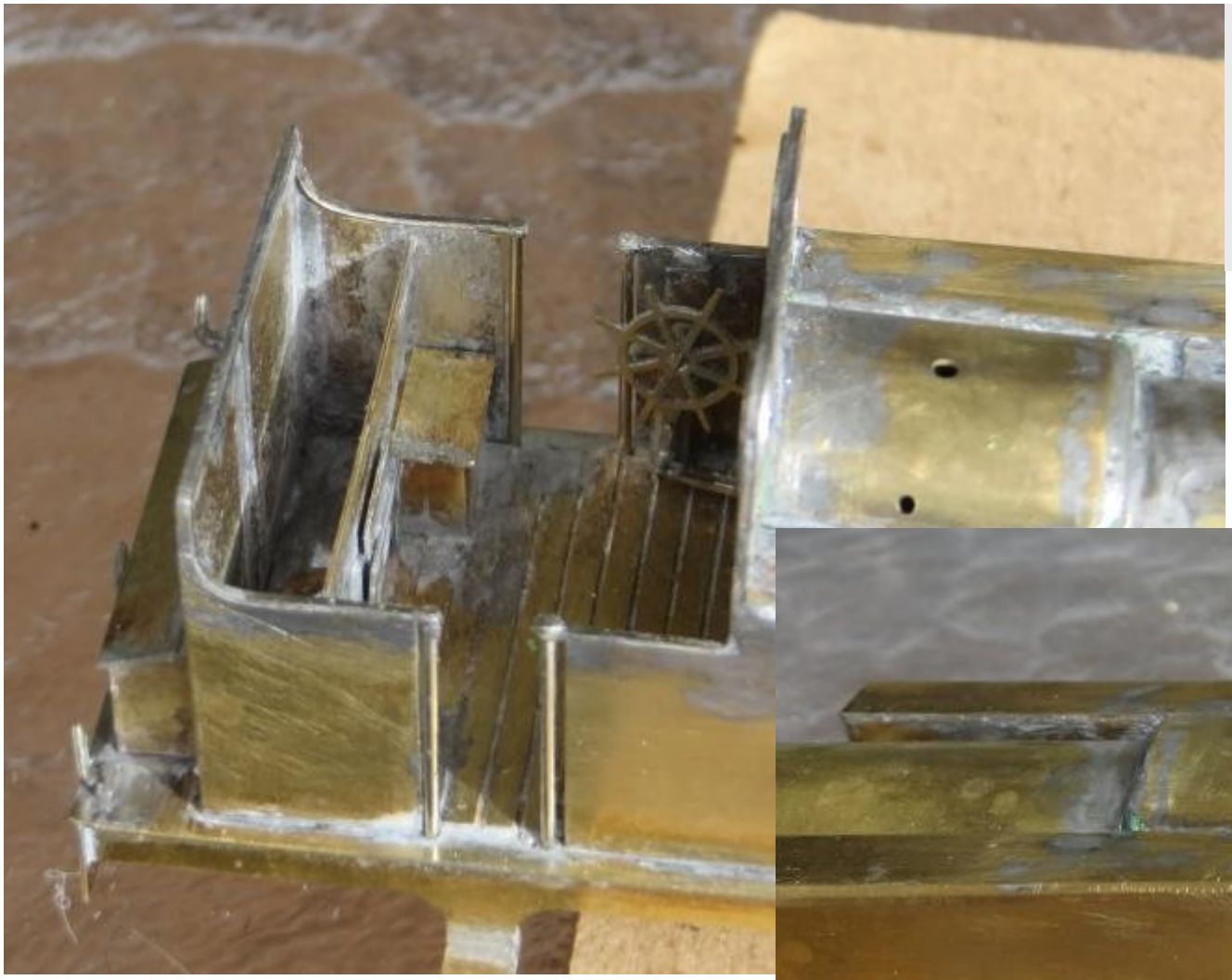
The raised firebox should be concentric with the boiler and reference to the photo and Burtt drawing (and known Craven practice) suggest that it should be a matter of a few inches larger in radius. By my reckoning, this means that it must also sit between the side tanks, rather than perching on top. If you agree with this interpretation, it will require a degree of creativity to adapt the available parts to represent the arrangement.

The one issue that this solution does not resolve is the alignment of the centre handrail knob. Mike has pointed out, with some justification, that it appears in photos to stand vertical. This would be possible if there was a plate across the top of the side tanks which closed the gap with the boiler - possibly Stroudley trying out the arrangement that he was to use subsequently on the Terriers. I confess that my centre handrail knobs are attached to the boiler and clearly at an angle. The only other solution that I can offer is that bespoke knobs were made up at Brighton works, with an angle in them as I have seen on some contemporary American locos.

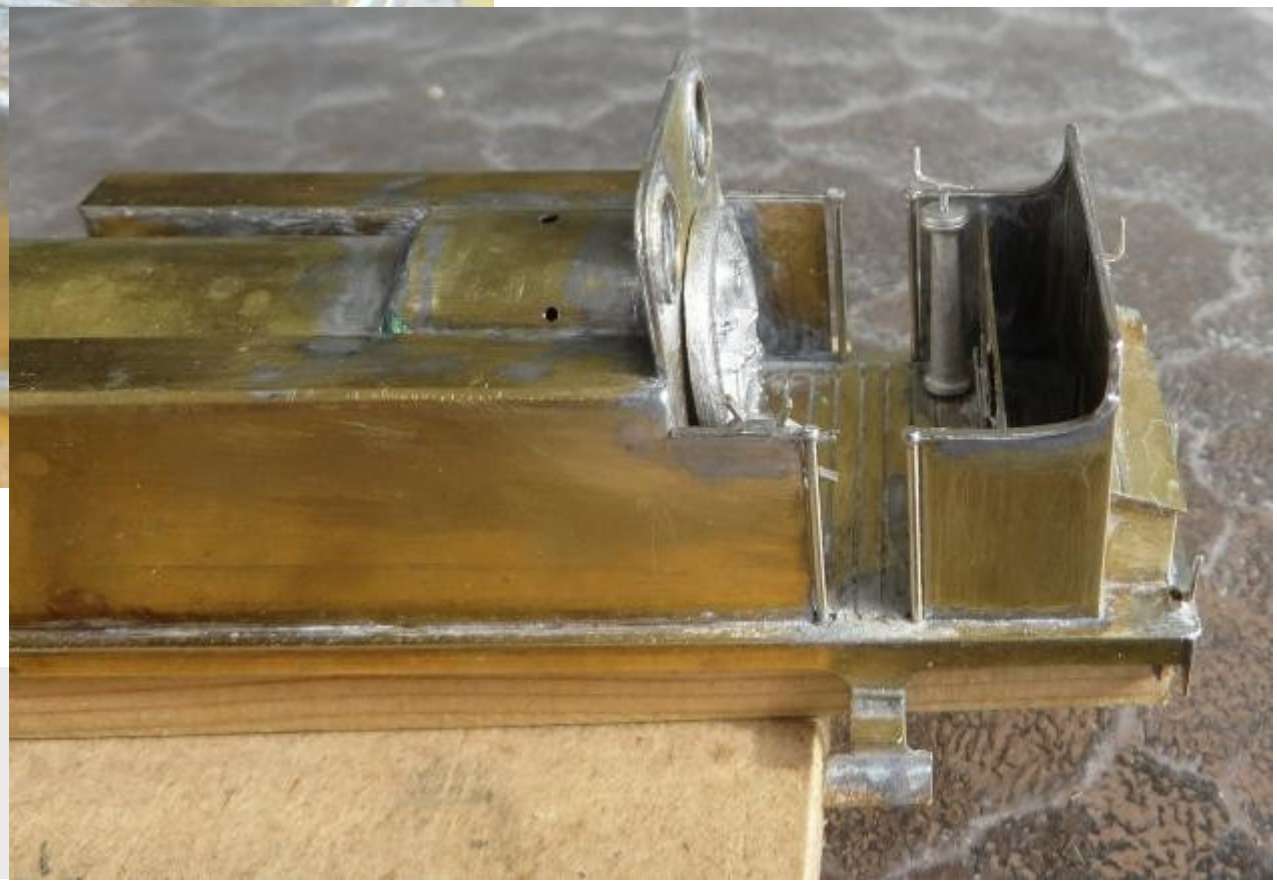




Another part of the loco, which required a degree of rework, was around the cab. The original suggestion in the instructions, which I followed, was that the front of the bunker had an odd sort of step half way down it, which looked like a bench over the coal door. The drawings leave quite a lot of room for interpretation and the one known photo provides an oblique view through the cab entrance which does not help much either. However, subsequent study of the photo suggested that, rather than a transverse bench, there might be a small toolbox visible against the cabside on the driver's side. I dutifully unsoldered the front of the bunker, reduced it to a simple vertical plate with coal door and cobbled together a couple of toolboxes to fit either side of the coal door – and very neat they looked. Third thoughts then occurred, as I looked for somewhere to put the brake standard, which, the photo suggests, should be exactly where I put the toolbox on the fireman's side. My final arrangement now has a toolbox behind the driver and a brake standard behind the fireman. And I have had yet more practice at unsoldering things..... Since then, Mike has kindly suggested that there need to be a couple of sandboxes in there somewhere, to go with the rear sand pipes. This sounds reasonable, given that there is already a hefty toolbox behind the bunker, but I am not sure how you resolve the conflict on the fireman's side where you do need to fit in a brake standard somewhere.

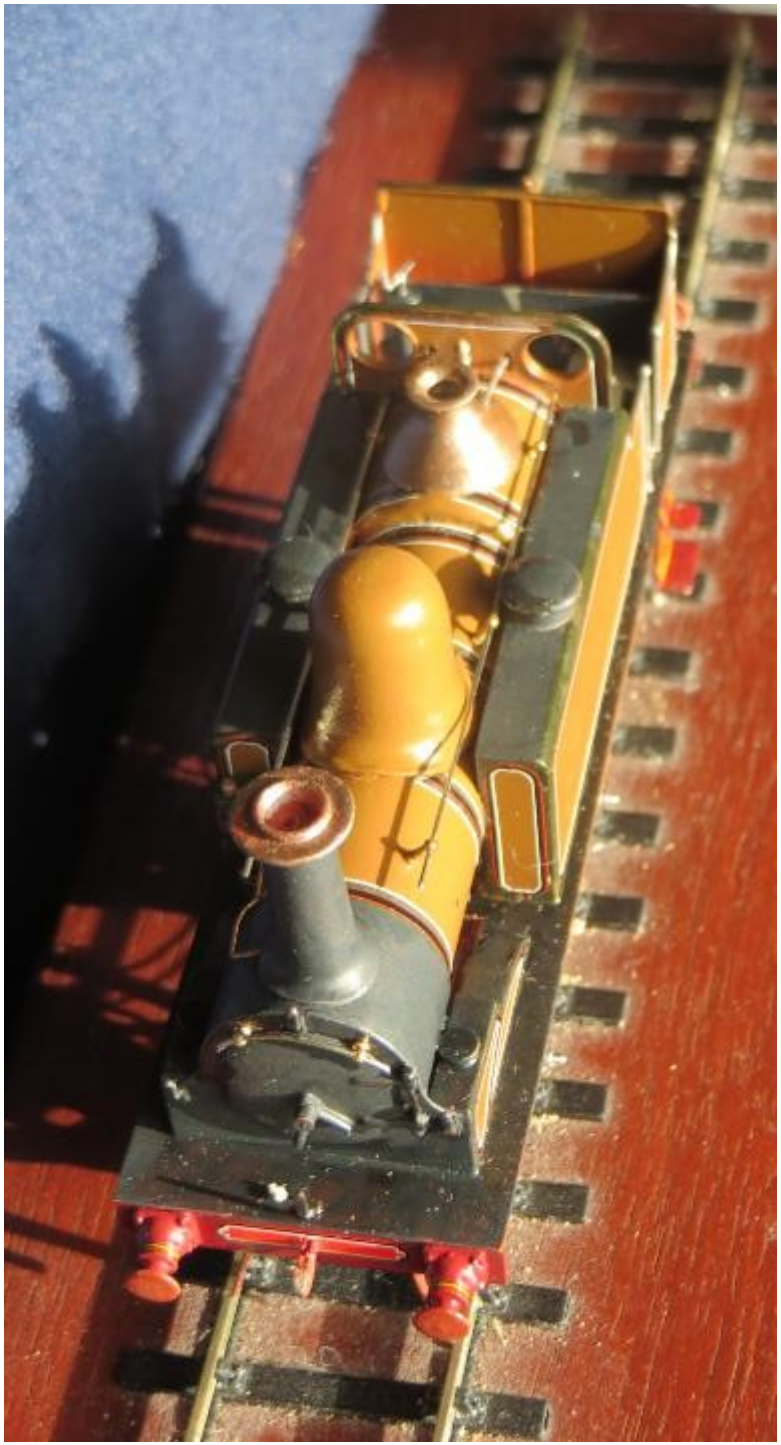


Left - a view of the cab showing the reversing wheel and the toolbox/ sandbox on the driver's side of the cab.



Right - the fireman's side with the brake standard. Where would you fit a sandbox on this side?

Normal closed cabs can hide a multitude of sins but with a totally open cab, everything shows. In this case, 18 and 21 featured a rather unusual reversing mechanism, in which the lever was moved by a longitudinally mounted wheel, that engaged with the ratchet on top of the arc. The kit provides etched parts to construct this – 11 in total - which makes for a rather interesting soldering challenge: however the final assembly looks very impressive.



The basic livery shows up the arrangement around the sidetanks rather more clearly. Completion of this stage of the project coincided with a further suggestion that the tops and front of the tanks were made up flush with the boiler! I am afraid that this model is not going for further rework but will stay as it is - right or wrong!

Brakes, boiler feeds, alarm bell and number plates still to be fitted. Varnish coat still to be applied.

Spot the angle of the handrail knob!

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Scenes from the AGM

The Library in Keen House is not the easiest place in which to take photos, so I am grateful to Ian MacCormac, Phil Taylor, Nicholas Pryor and Peter Warren for trying to capture some of the models (and kits) that were on display at the AGM.

First, Peter Warren's 7mm scale Pullman Pup.

PO wagons by Nicholas Pryor from 5&9 kits

Above

Scratch built P4 models of early wagons by Simon Turner

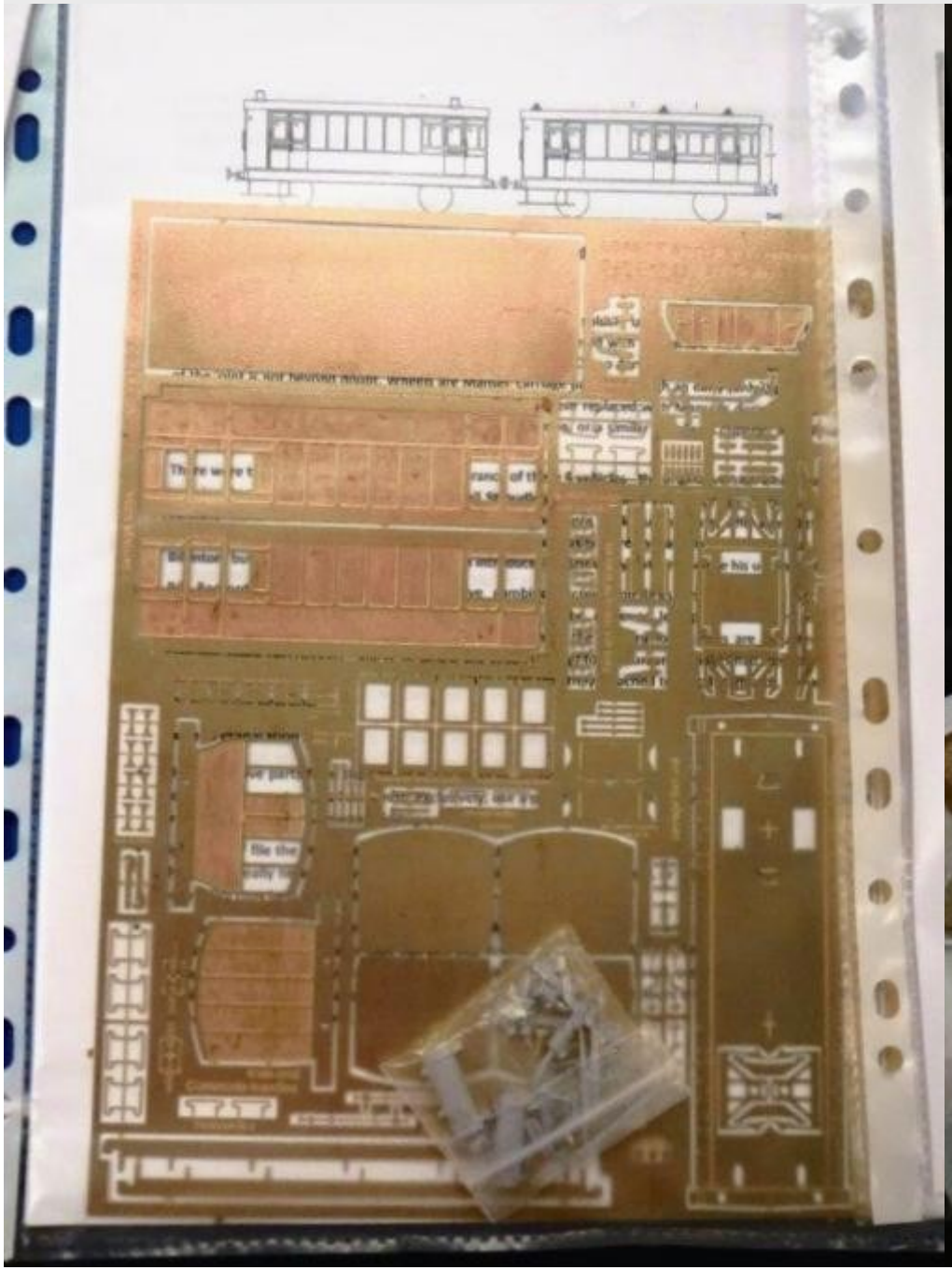
Wagons and kits from Chris Cox

Three of Nicholas Pryor's locos.

The K class is from a Mallard kit, rescued from E Bay

The B4 and D2 were built by David Amias and painted by Warren Haywood.

Ian MacCormac had brought along a few kits for sale.....



From Nicholas Pryor's set of Craven carriages, built from Ian MacCormac kits by Ian Willets and painted by David Studley.

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3-D Printed Machinery Wagon - a review

Eric Gates

I have been watching the progress in quality of 3D printed products with some interest, as the technology has improved progressively to deliver clearer definition and reduced stratification. A recent purchase was the 1894 machinery wagon, which is available from Recreation 21 at Shapeways in a range of scales. The photos on the following page show it in translucent material, as received, and with a thin coat of grey primer, to make the detail more visible. What you get is a simple one piece printed body/frame, on which you will need to figure out how to mount the wheels.

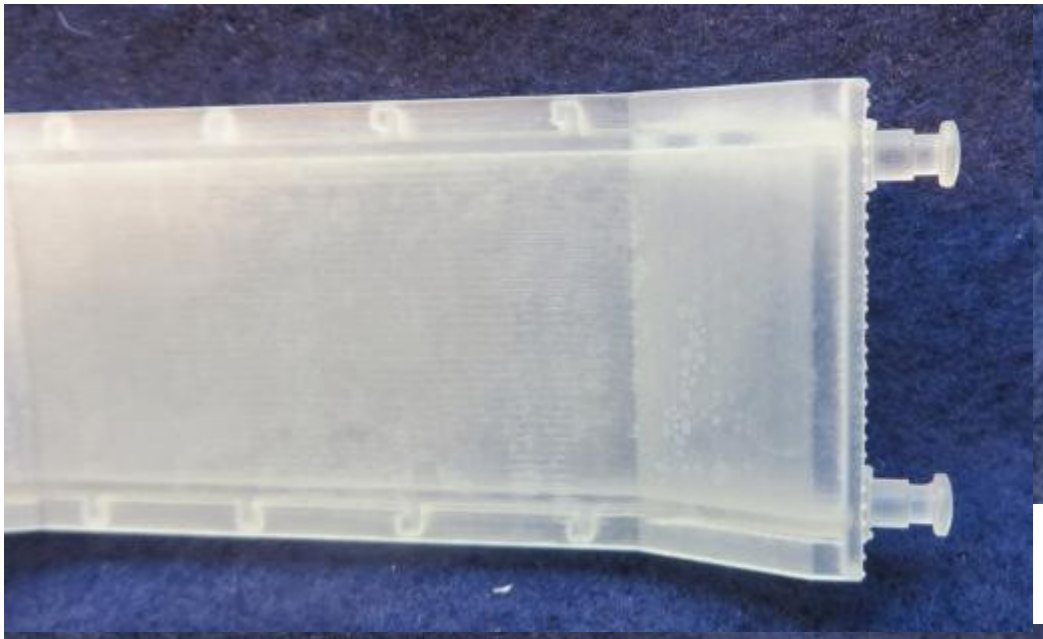
My main reservation with the print that I received was that both buffer beams had quite pronounced vertical bars on them. This was not difficult to remove with a file, but I am not clear whether this was a one-off print failure or something that is inherent in the design. I have asked the designer but have not had a reply. Otherwise, the detail and definition are very good, although there is no detail on the deck and no hole (or reinforcing plate) for the drawhook. The weight (or lack of it) cries out for a nice chunky piece of machinery - or perhaps an armoured turntable (see page 35) to give it a bit of substance.

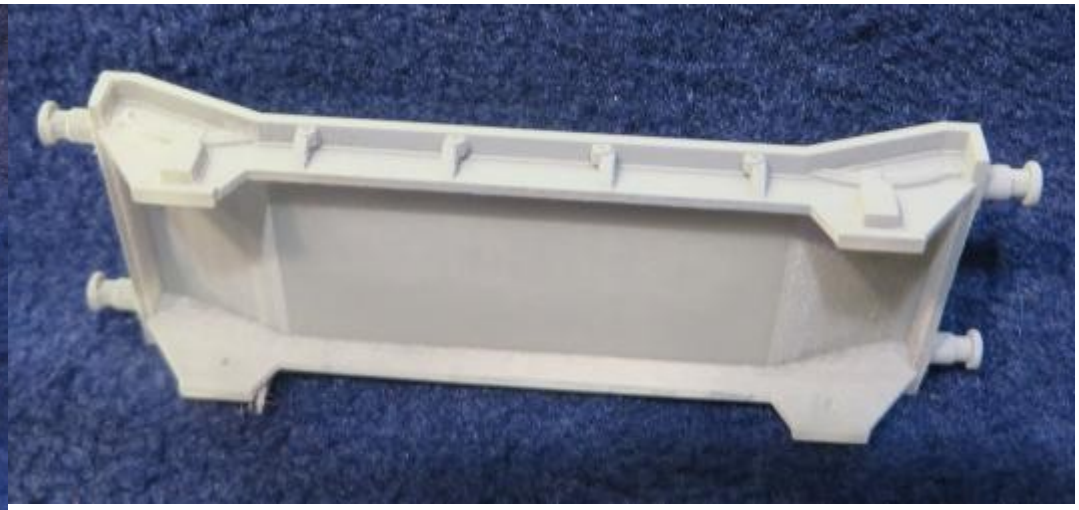
The print is available in a range of scales from Shapeways at

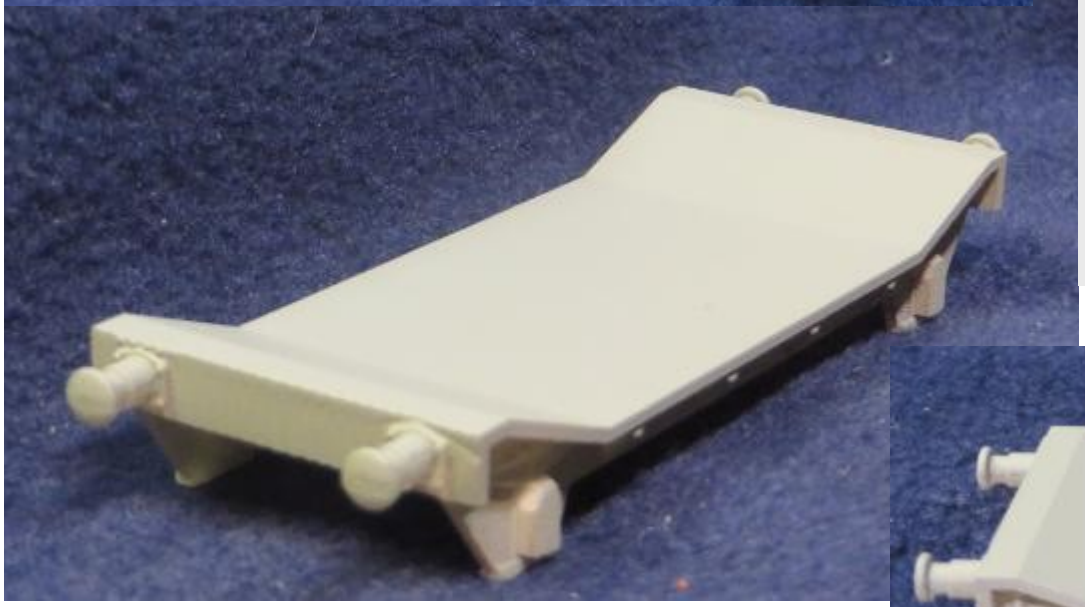
https://www.shapeways.com/product/CDHQPL3SE/a-76-lbscr-well-wagon-1a

Priced at £18.78 for the 1:76 scale version

Available in 1:32, 1:43, 1:64, 1:76, 1:87, 1:100 and 1:148 scales







Top left - print as received with vertical bars on the buffer beam.

Other photos show the print after removal of the bars with a file and a quick blast of Holts grey primer.

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5 & 9 Models

Chris Cox

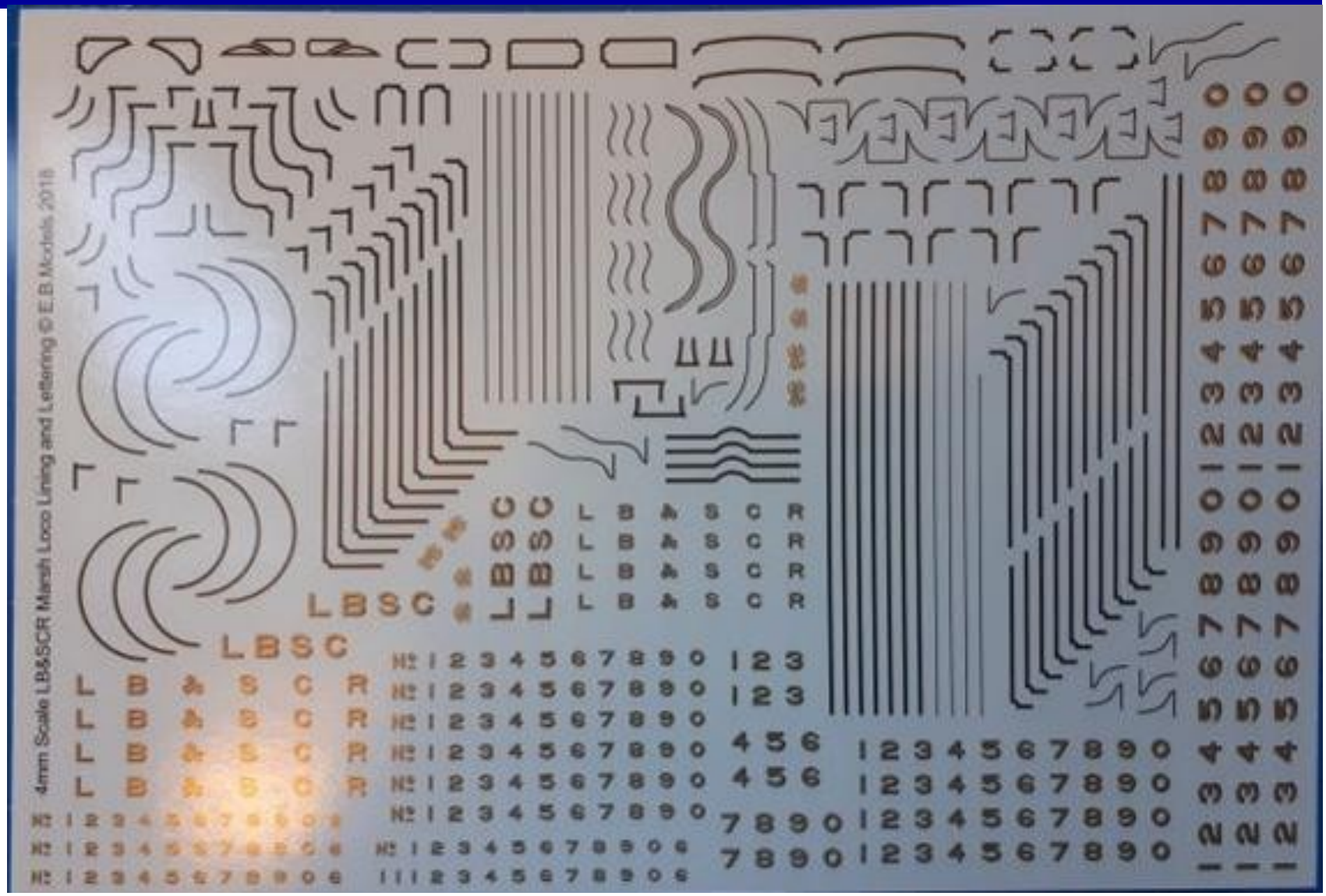
5&9 Models will have a new kit available for an early goods wagon of No.1607 (illustrated right). Simon Turner has made the masters and Chris has made the moulds. The kit will be £14 including etched W irons, bearings, coupling and safety chain hooks. Floor, wheels and fine chain are required to complete. Post and packing £3.

chriscox5and9@gmail.com

EBModels

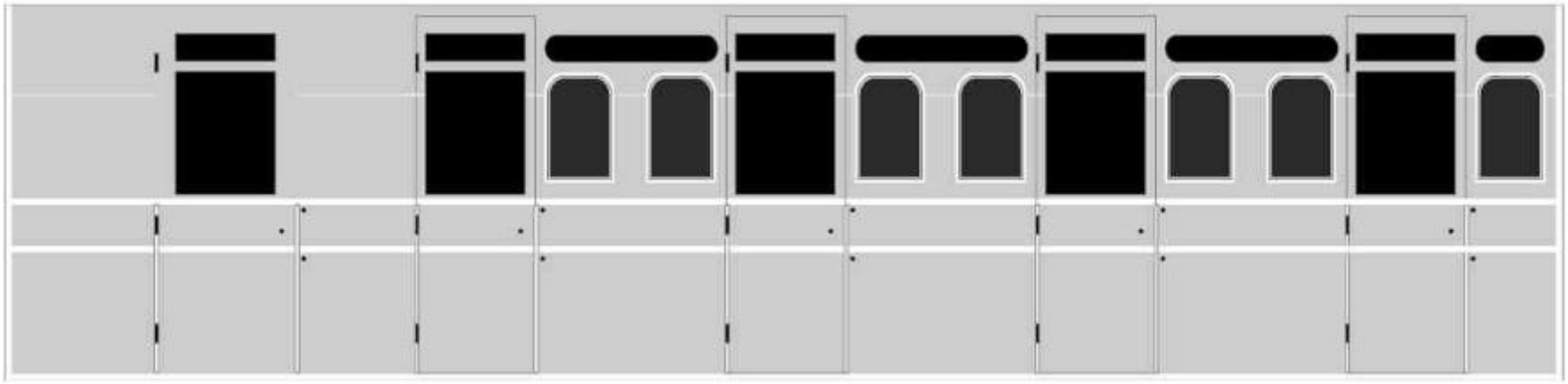
David Lowe and Ian MacCormac

Lots of things going on at EBM, starting with transfers. Both Marsh and Stroudley passenger liveries, in a number of scales, are becoming available.



Among the etched products are a set of 4mm scale type 15 Craven passenger vehicles. Nicholas Pryor's vehicles, illustrated elsewhere, show what can be done with them. Etches only are available at £30 per vehicle.

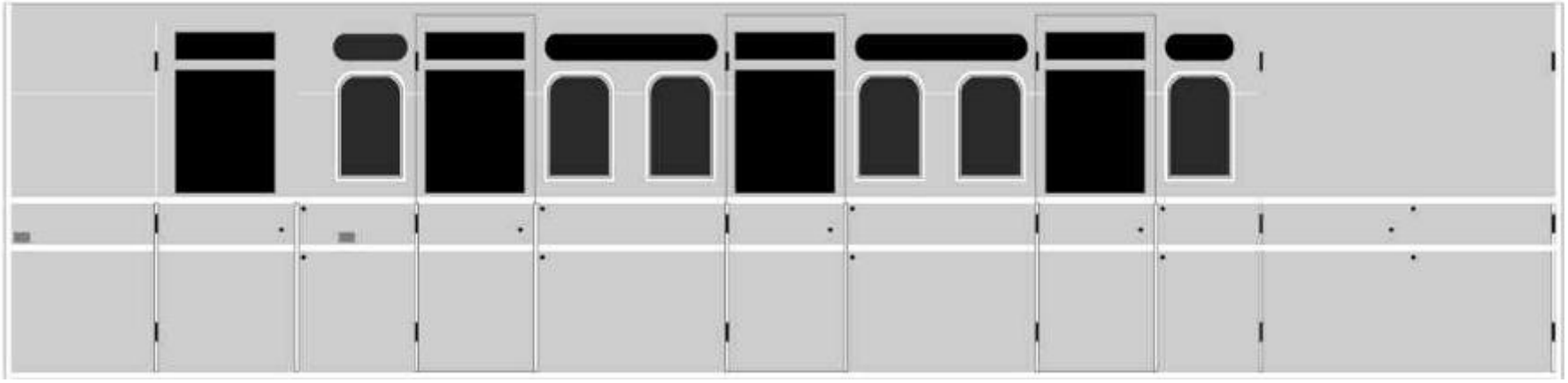
15I



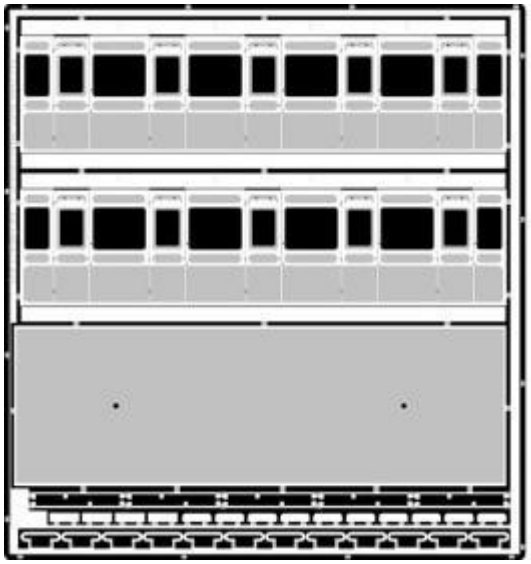
There is also a Type 20D lantern roofed brake van available for £55 for the complete kit.

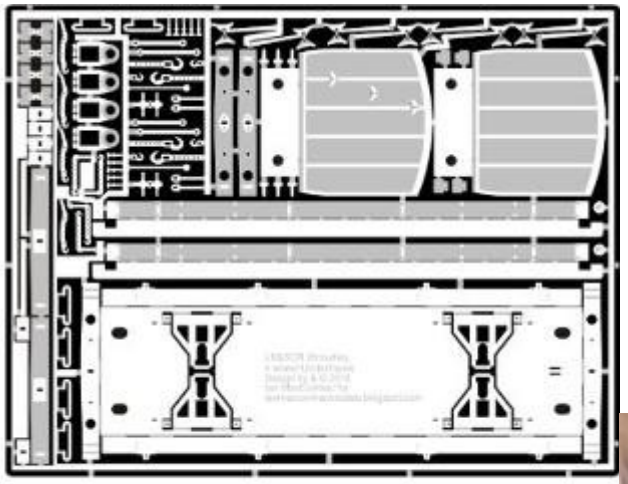
The intention is also to have these available in 7mm scale.

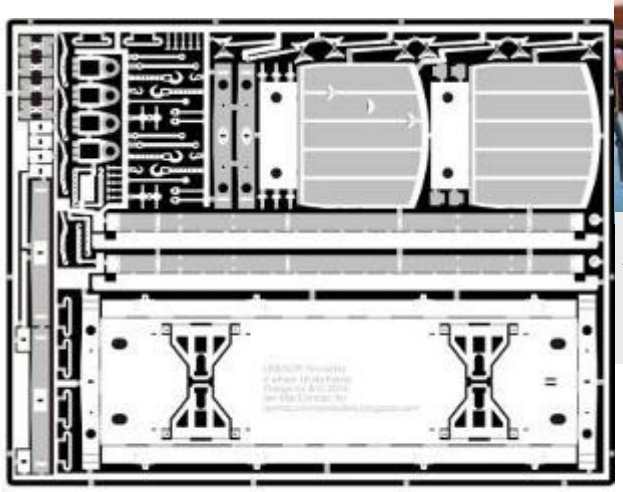
15H



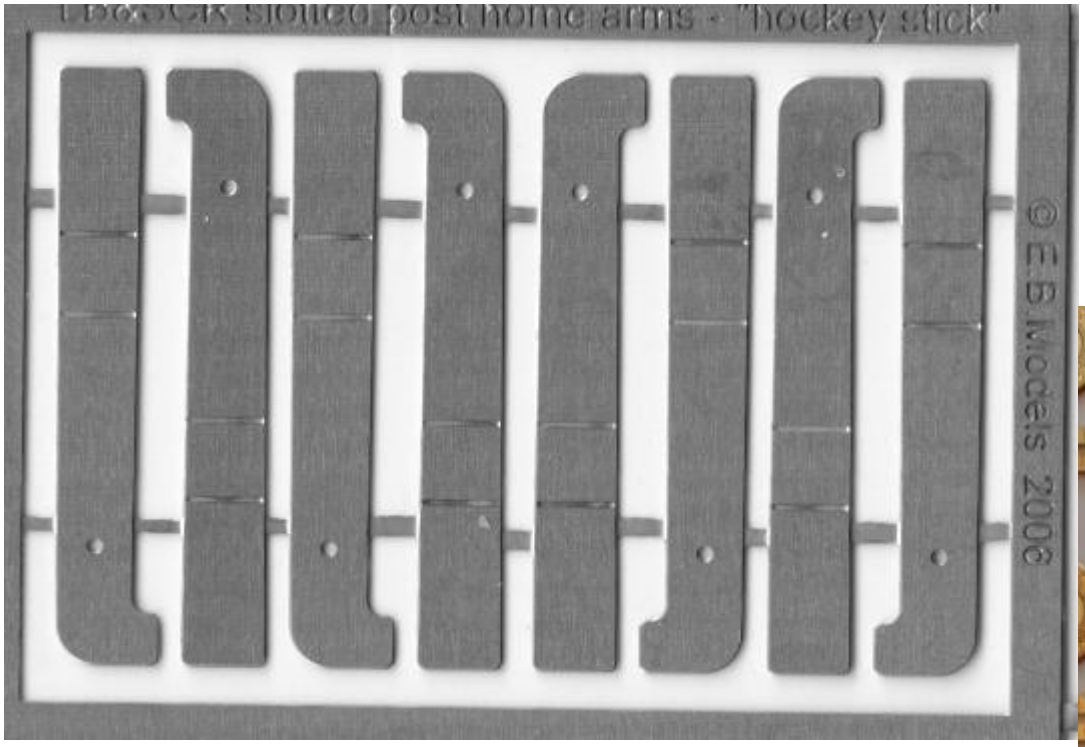
The aim is to fill in many of the gaps in Stroudley stock, including early 4 wheeled carriages, saloons, NPCS and even a Pullman.

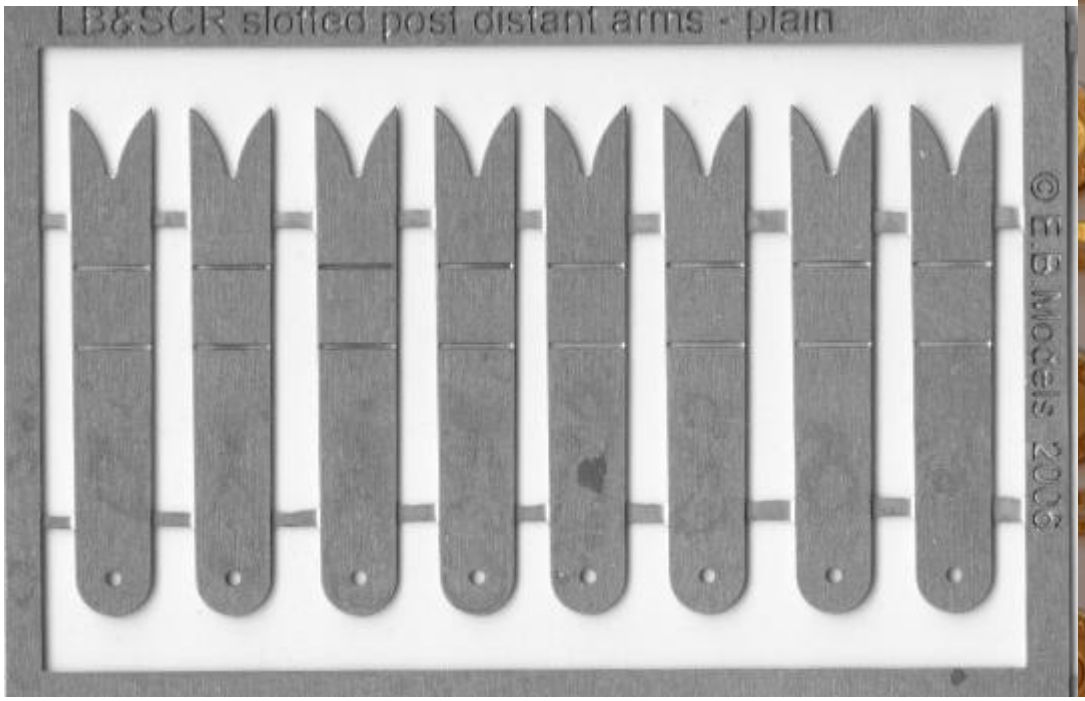






Above - assembled etches for the D51 Meat van.





Signals are back in stock (for the full range see Ian's blog at http://ianmaccormacmodels.blogspot.com/) and also etched number plates.

Photographs copyright Ian MacCormac

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The annual wishlist poll - 4mm scale

The annual wishlist poll which was run this autumn and published on RMWeb, has thrown up a number of items of Brighton interest. Whilst there is no guarantee that this will result in an immediate announcement of a forthcoming 4mm scale model, the poll has a good track record of identifying prototypes that are picked by manufacturers for subsequent development. The following Brighton prototypes were in the “top 50” – representing subjects that scored more than about 220 votes.

Among the locomotive lists, the K class was 4th Southern loco with 281 votes, making it 11th most favoured steam loco overall; for comparison, the GWR Manor class scored 421.

In the Coaches lists, the most popular choices were GWR toplights, with 321 votes, while Isle of Wight 54’ bogies coaches were 5th overall (and most requested Southern vehicles with 233 votes). Second in the Southern category were Stroudley 4 wheelers, which are a new entry and scored 191 votes.

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Stroudley 4-wheeled carriages in card

Linny Linehan

The LBSCR Digest 7 featured a series of Stroudley 4 wheel carriages produced in laser cut card. Following a request, these have now been upscaled to Gauge 1 (10mm/1ft) for the benefit of those who like their models to have a bit more substance!

The photo on the right gives a comparison of the relative sizes of 4mm and Gauge 1 - and also shows the structure of the larger vehicle.

More details of currently available kits can be found at http://linnyslaser.wordpress.com, along with instructions and a list of recommended detailing parts to complete them.

If you're interested in how these kits came to exist, details can be found on the thread on RMWeb at http://www.rmweb.co.uk/community/index.php?/topic/130588-great-southern-railway-fictitious-laser-cutting-lbscr-coaches-coaching-stock

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An E6x from Shapeways

Javier

For those looking for an E6-X, it is now available for purchase on Shapeways!

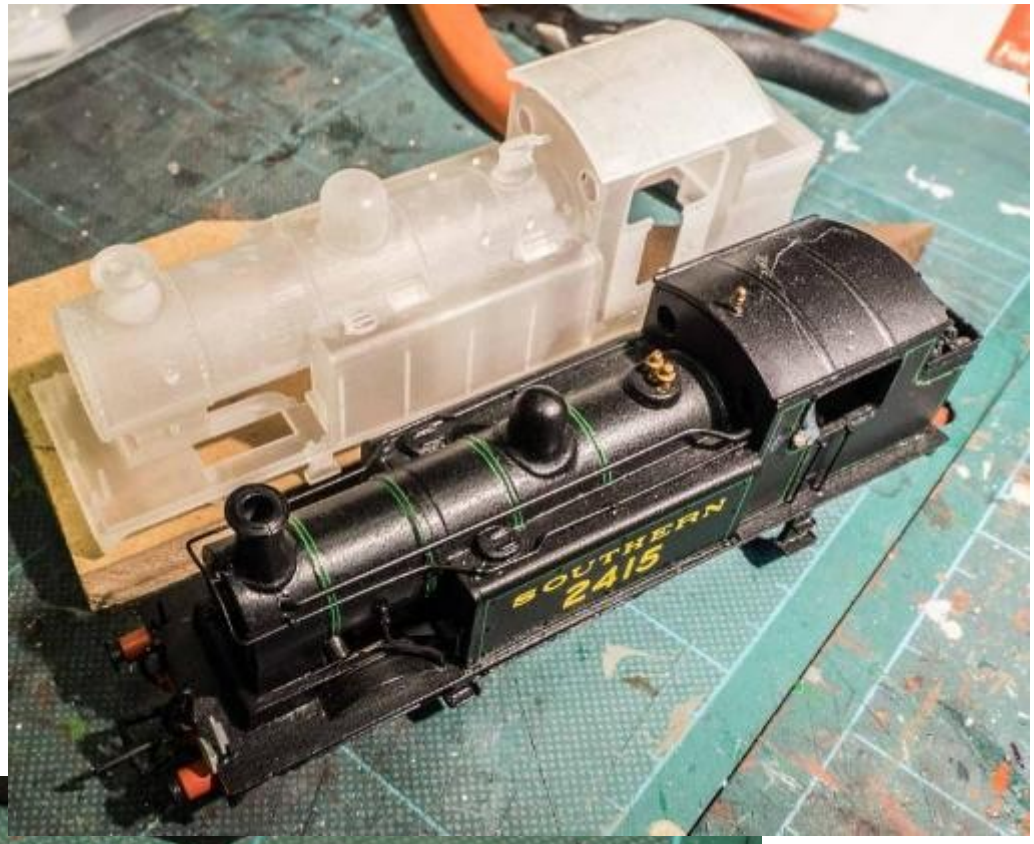
The attached photos of the model show it in the Smooth Fine Detail Plastic, which is priced at about £121 for the 4mm scale version. Alternatively it is also available for purchase in White Natural Versatile Plastic for a little over £70 (depending on version).

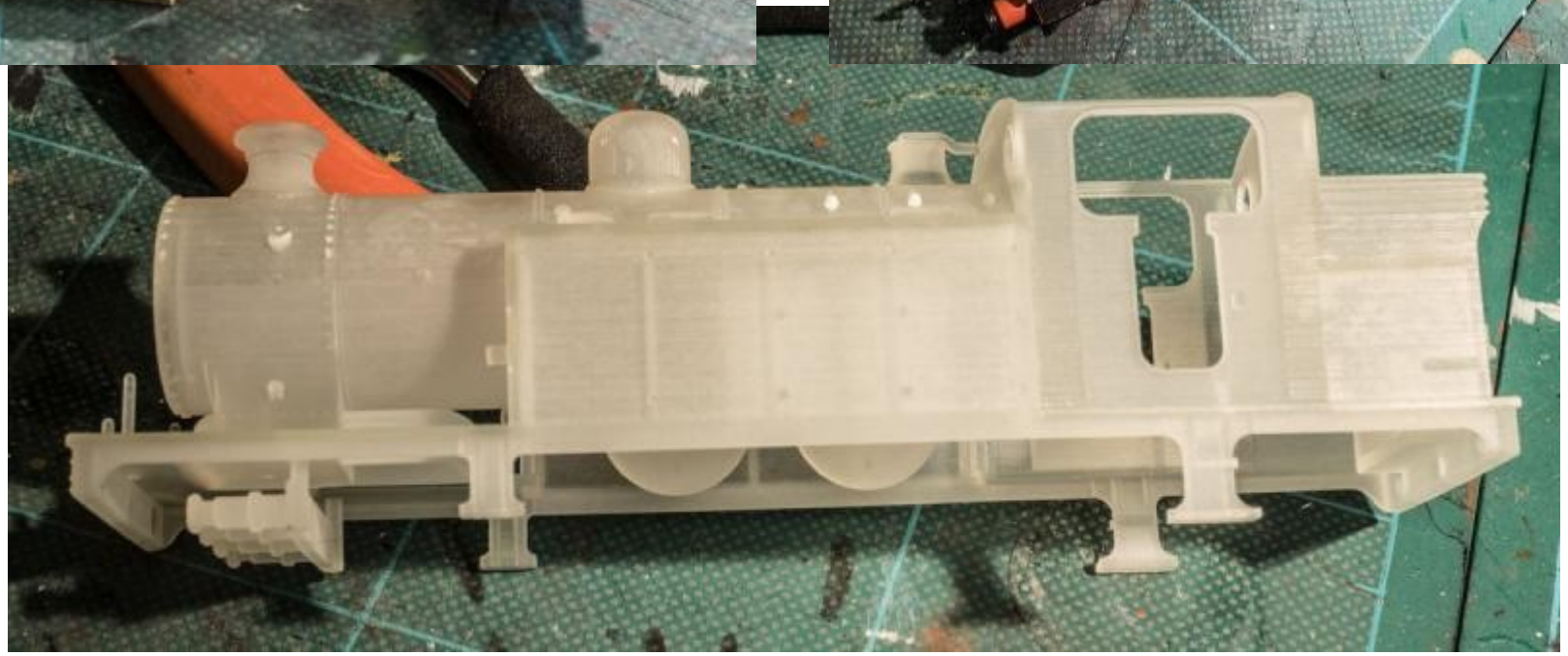
The model comes in a series of different variants depending on the era, providing options to model LBSC, Southern, and BR. Alternatives include the number of domes or with/without a cab interior. It is also available in 1:87 scale for those in the British HO market. The body requires finishing, which includes sanding and the required fittings such as the brakestand and brake pump to complete the body.

The Body is built for the South Eastern Finecast chassis for the E6, along with a best fit of Markits 4'6" wheels.

Link to shop: https://www.shapeways.com/shops/caliper-s-paradise-models

Print completed by Tony Teague


SOUTHERN
2415



Also available
Bolster wagons (Dia. 1616 & 1617): an Isle of Wight version of these wagons will be available sometime in the future.
https://www.shapeways.com/product/QMYWDKKVB/lbscr-16-bolster-wagon-s-r-dia-1617-nbsp?optionId=70585680&li=marketplace
Current price £18.80

30 Ton Machinery Wagon
https://www.shapeways.com/product/QEVHQPJAZ/lbscr-30-ton-machinery-wagon?optionId=68875534&li=marketplace
£21.83 in 4mm
scale

Other items in development include a Billinton 4 wheel goods brake, an early Craven horsebox and the Brighton works shunter 0-4-0WT number 400!

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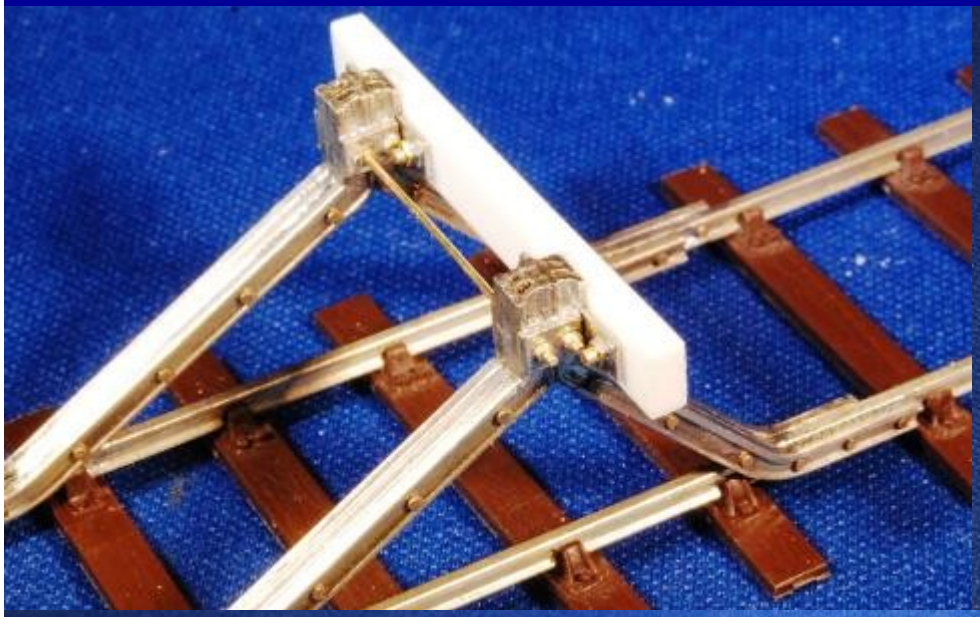
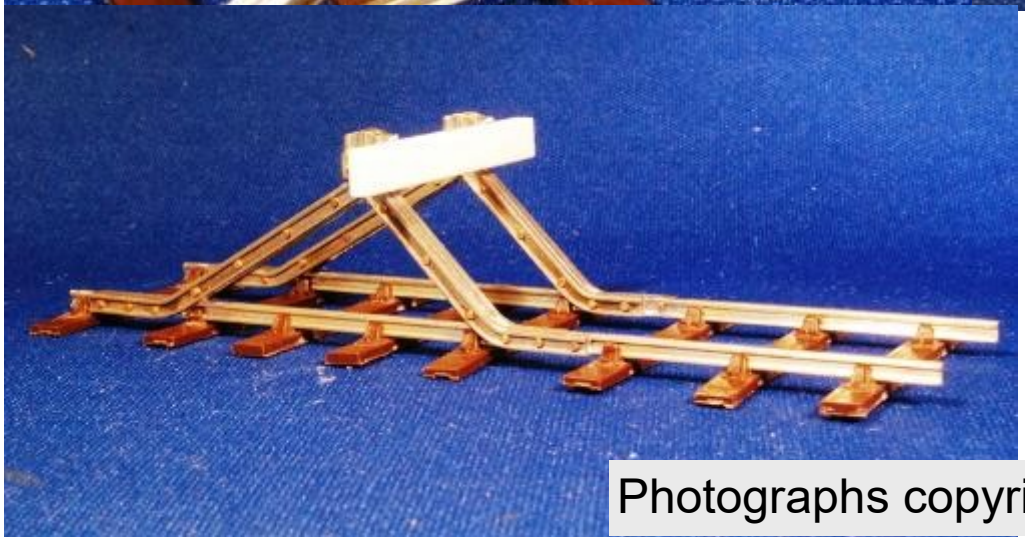
Lanarkshire Models buffer stops - 4mm scale





Now available.

Can be built for 00/EM/P4.

Prices are £5.95 each or £27.50 for pack of five.

website at

http://www.lanarkshiremodels.com/index.html

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Bachmann Brighton Atlantics

Many readers will be aware that Bachmann have now released their 4mm scale models of both the Marsh and Billinton versions of the H class Brighton Atlantics. This coincides with the progress being made at Sheffield Park on a full size Brighton Atlantic!

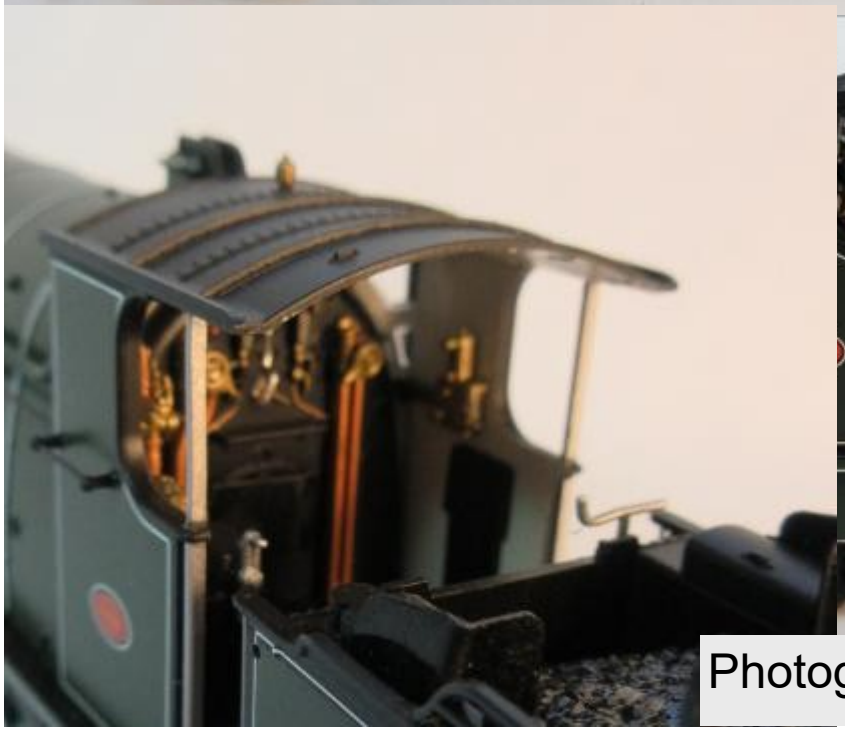
The model press has published a number of reviews - all enthusiastic! Ian MacCormac has kindly provided photos of the two, in which he has invested, so that you can form your own opinions.

Further options for liveries and build standards are promised for the future.


39
LA FRANCE


39


L B S C
39



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Dapol Terriers in 7mm scale

Dapol's 7mm scale Terriers have been widely publicised. The following photos have been provided by David Elvy, illustrating production standard models, for readers to form their opinions.


Nº 672


Nº 67


BOXHILL


BOXHILL

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Brighton Layouts that you may see at Exhibitions

Ferring

Plumpton Green see linked website

Hailsham see linked website

Saltdean see linked website

Vintners' Yard will be appearing at the Nailsea show in April

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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 Line, 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, paint and lettering on a limited run basis, which are made available among other members.

Membership of the Brighton Circle for 2019 is

£18.00 for full membership

Applications should be sent to

The Membership Secretary, Peter Wisdom

peter.wisdom.wisdom@btinternet.com

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

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

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MEMBERSHIP APPLICATION FORM

To the Hon. Secretary, Peter Wisdom, 76 Woodbourne Avenue, Brighton BN1 8EJ

I hereby apply for membership of the Brighton Circle.

SIGNED..... DATE.....

NAME.....

ADDRESS.....

.....

.....POSTCODE..... (BLOCK CAPITALS PLEASE)

It would be helpful if you could give some idea of your main interests in the history of the LB&SCR and any special interests. Please indicate if you are a modeller and give any details.

I enclose a cheque/postal order for £19.00/£10.00 to cover the joining fee of £1.00 plus twelve/six months membership of the Brighton Circle for the calendar year 2019 (please delete as necessary).

Cheques should be made payable to **The Brighton Circle.**

Privacy statement

The personal information provided above will be stored on a computer database of members' details and used for administration purposes by the Brighton Circle's appointed representatives.

Please sign below to indicate that you agree to give the Brighton Circle permission to use the personal information that you have supplied in the following ways

- To store it securely for membership purposes
- To communicate with you as a Brighton Circle member
- To send you general information about the Brighton Circle

Please be advised that you can request for your data not to be used for any of these purposes at any time by contacting the Honorary Secretary by e mail at peter.wisdom.wisdom@btinternet.com or by post to 76 Woodbourne Avenue, BRIGHTON BN1 8EJ

Signed..... Date.....

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