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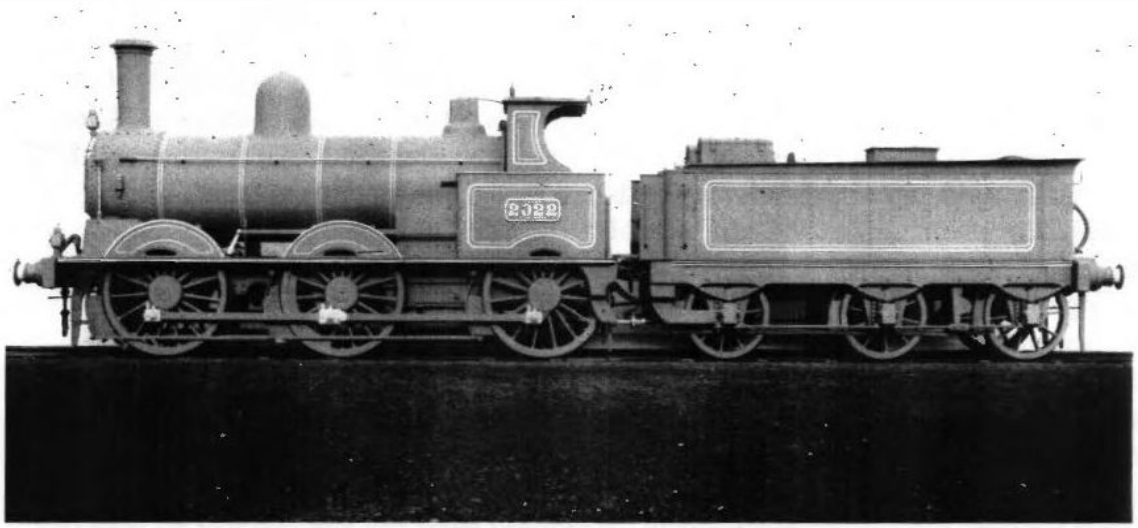
Barrowmore Model Railway Journal



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Contributions are welcome:
(a) as e-mails or e-mail attachments;
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(c) a typed manuscript;
(d) a hand-written manuscript, preferably with a contact telephone number so that any queries can be sorted out;
(e) a CD/DVD;
(f) a USB storage flash drive.
Any queries to the Editor, please.

The NEXT ISSUE will be dated September 2008, and contributions should get to the Editor as soon as possible, but at least before 1 August 2008.

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Copies of this magazine are also available to non-members: a cheque for £6 (payable to 'Barrowmore Model Railway Group') will provide the next four issues, posted direct to your home. Send your details and cheque to the Editor at the above address.

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The cover illustration for this issue is of LNWR 'Special DX' No. 2022 (LNWR Official Photograph B19. When Norman first showed me this image, I read the cabside number as '2322', but the actual number of this engine was 2022 – there is a blemish on the slide/negative, making different people read it in different ways!).

When John Ramsbottom took charge of the locomotive works at Crewe in 1857, his brief was to produce a fleet of standard engines to replace the host of variants of 'Crewe Type' 2-2-2s and 2-4-0s built by Trevithick.

The DX was Ramsbottom's standard goods engine. It was a simple, rugged, 0-6-0 design with inside cylinders, 5ft wheels and no frills. The first one appeared in 1858, ordered as lot 'DX', and 793 had been built by the time Ramsbottom left Crewe in 1871. The DXs had Ramsbottom's chimney with castellated cap, slotted splashers which revealed the wheel spokes and had no roof to the cab. The centre splasher carried a brass plate which showed the number or, for some engines, the name although the naming of LNWR goods engines ceased in 1861. Livery was green, with a painted number on the cab side. All the engines had the usual Crewe smokebox door with a horizontal hinge - the door lifted up for access. No brakes were fitted to the engine and the driver had to use the screw brake on the tender or put the engine into reverse. The DX was an early example of mass production and Ramsbottom had built a hornblock grinding jig which fitted under the frame of an engine to grind all twelve wearing surfaces simultaneously - it reduced costs and ensured that all the DXs had exactly the same wheelbase (see illustration on page 18).

Mr F W Webb succeeded Ramsbottom in 1871. He had started work in the Crewe drawing office in 1856 and worked on the drawings for the DX. He built a further 70 DXs in 1872, bringing the LNWR's fleet of DXs to 863. The Webb engines had closed splashers, Webb chimney and cab roof. The earlier engines soon acquired Webb's chimney with plain cap and were gradually given the other Webb features, including black livery and the well known cast number plate on the cab side.

The LNWR built a further 80 DXs for the Lancashire & Yorkshire Railway - this upset several private locomotive builders who obtained an injunction to stop that sort of thing happening again! Hence the total number of DXs was 943 and the DX was the model for thousands of British 0-6-0 goods engines.

From April 1881, Webb began to rebuild the DXs with a new boiler at 150psi pressure and coupling rods with solid ends. Other changes followed - 'simple' vacuum brakes with wooden brake shoes from 1883, 'automatic' vacuum from 1887, circular smokebox doors from 1889 and, much later, iron brake shoes. The changes were applied in various combinations but by the 1890s the unbraked engines had become known as 'Black DX' (they were painted plain black) whilst the ones with vacuum brake and circular smokebox door became 'Special DX' (they could be used on passenger trains and were fully lined).

Withdrawal began in the 1890s - some engines were nearly 40 years old – but many engines were passed on to the LMS and the class lasted into the early 1930s.

The featured engine, No. 2022, was built in August 1871 and was a standard Ramsbottom engine. It is shown on 18th February 1891, painted in lined grey livery for the Crewe photographer, after rebuilding as a 'Special DX'. The coupling rods are the original type with built-up ends. It was put on the duplicate list in 1909 as No. 3242 and was to have been LMS No. 8075 but was scrapped in 1925 before the number was altered. It had given 54 years service.

[This caption is by Norman Lee, with acknowledgements to Ted Talbot and Bertram Baxter]

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Forthcoming events

(2008)
7/8 June 2008: DEMU showcase, Burton-on-Trent.
14/15 June 2008: Chatham show.
12 July 2008: 7mm running track, Llanbedr (see Editor for details).
13 July 2008: 7mm running track show, Gresford (see Editor for details).
9 Aug. 2008: 7mm running track (special American O gauge day), Llanbedr.
23 Aug. 2008: 7mm running track, Llanbedr (see Editor for details).
6/7 Sep. 2008: W.H.R. show at Dinas.
13/14 Sep. 2008: ExpoEM North, Slaithwaite.
20/21 Sep. 2008: Warrington show (**"Johnstown Road"** is appearing).
11 Oct. 2008: 7mm running track, Llanbedr (see Editor for details).
18/19 Oct. 2008: Blackburn show.
25/26 Oct. 2008: Beckenham show (**"Mostyn"** is appearing).
15 Nov. 2008: 7mm running track, Llanbedr (see Editor for details).
22/23 Nov. 2008: Warley show.
28/30 Nov. 2008: Wakefield show.
13/14 Dec. 2008: Wigan show (**"Johnstown Road"** is appearing).

(2009)
10/11 Jan. 2009: St Albans show (**"Johnstown Road"** is appearing).
27/28 June 2009: Perth exhibition (**"Mostyn"** is appearing).
12/13 Dec. 2009: Wigan show (**"Mostyn"** is appearing).
(The Editor welcomes details of other events of railway interest for this column)

Our web-site address is: www.barrowmoremrg.org.uk
(Also of interest is: www.mostynhistory.com)

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Letters to the Editor

(E-mail from well-known author Don Rowland of Whitchurch ...)

Greetings. Would you mind putting the enclosed into the Journal when it's convenient. I have tried several other publications but to no avail.

Don

Calveley.

In the inter-war years when the railways were turning to bulk transport of milk in tank wagons, as opposed to milk churns, Calveley (I understand) was the first LMS station to be equipped for milk tanks. This involved laying down a separate siding adjacent to the dairy with overhead delivery piping plus other pipes conveying fresh water and steam for cleansing the tanks prior to loading. I feel sure the LMS PR department photographers would have descended on the new installation but I have been unable to find any evidence. If anyone could help I would be most grateful. Replies to the Editor please. - Don Rowland

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(e-mail from Dundalk (Ireland) Reference Library ...)

Hello David ... I would ask, on behalf of Louth County Archives, who are in the process of organising an exhibition on the local railway and Greenore Hotel, and a student working on a thesis, for permission to use extracts from information which you kindly sent including the Dec. 2007 issue of The Barrowmore Model Railway Journal pertaining to said railway and hotel. Hoping this request to be in order. ...

alan hand (Reference Library).

(Editor: Our fame is international...!) More letters on page 29.....

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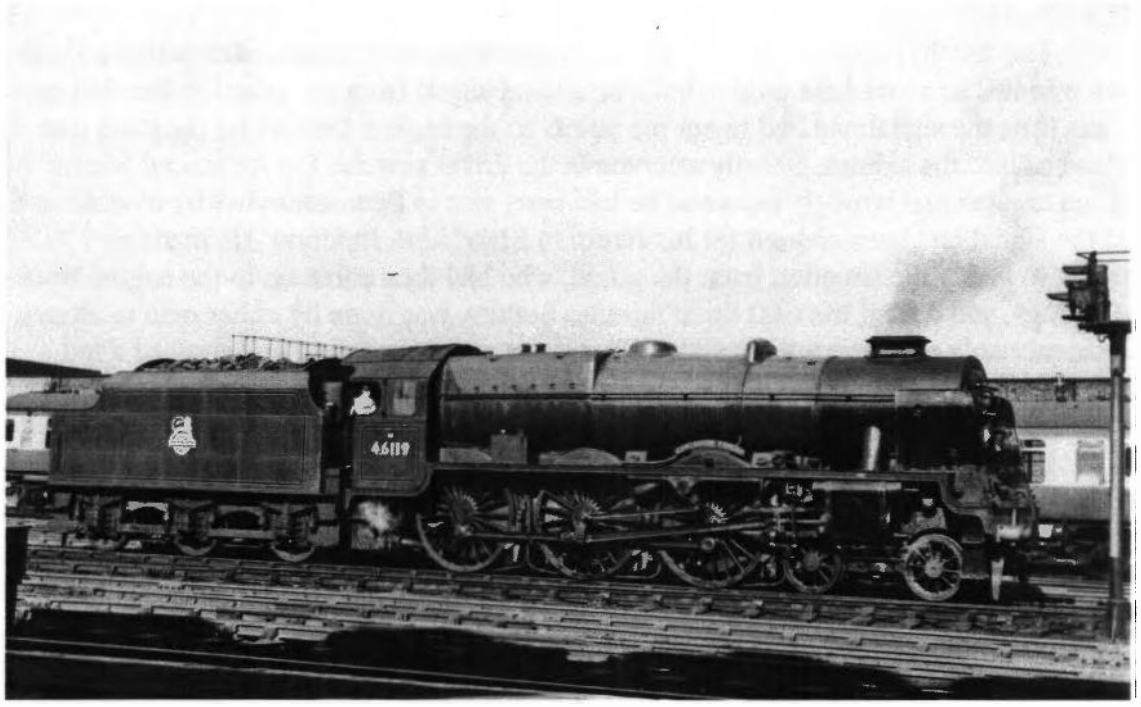
Calveley, 7 February 1978

John Dixon has come across two colour transparencies, taken by him in 1978 at Calveley, on the Chester to Crewe line. This is the first one, and shows a mixed two-car DMU formation heading for Chester, about to pass beneath the main A51 road. The leading DMU car is a Class 103 'Park Royal' vehicle; by this time the only survivors of this small batch still in BR service were based at Chester. You can see the second image on page 12. The captions are by Eddie Knorn (who lives in Calveley) and John Dixon.

[Penmaenmawr is a small station on the Chester-Holyhead line, about six miles west of Llandudno Junction and ten miles east of Bangor; these days, it is best known in railway circles as the source of much of this region's granite ballast]

The Penmaenmawr accident, 1950

PENMAENMAWR (London Midland Region), 27th August—On a fine and quiet night, an Up express passenger train [note 1] collided at 45-50 m.p.h. with a light engine [2] which was moving slowly in the same direction. The express had passed the clear distant at 60-70 m.p.h. and the Home signal was put to danger closely in front of it at the last moment; the driver reacted promptly, but he was unable to stop the train in time. There was severe damage to both engines and to five of the 16 coaches, including the destruction of a sleeping car which was telescoped with the leading van. Five passengers and a sleeping car attendant were killed, and 31 passengers and four servants were injured, 23 persons seriously. A Down freight train was stopped just clear of the wreckage by the commendable action of the fireman of the express, who went forward at once with detonators, although he was injured.



"Lancashire Fusilier" 46119, after repair, pictured at Crewe in June 1957 by Syd Wainwright

The light engine, which was booked to work a train from the Penmaenmawr Up sidings, arrived on the Down line with a goods guard on the footplate 8 or 9 minutes before the express was due. The light engine was crossed to the Up line so as to set back on to its train through a trailing connection nearly 250 yards from the box; there were no ground signals and the view from the box was partially obstructed by the station footbridge. The difficulty of communicating between the box and the engine undoubtedly contributed to the misunderstanding which followed between the signalman and the driver. The former, on hearing the engine whistle after it had cleared the main line crossover, set the road for the siding and gave a hand signal from the top of the signal box steps; he was positive that after waiting two or three minutes he heard a second

whistle, which he took to mean that the engine was "inside" although he neither saw nor heard it move, and he re-set the road for the main line and cleared all signals for the express.

The light engine involved (42885) was similar to this 'Crab' 2-6-0 no.42821, photographed at Chester on 28 March 1959 by Syd Wainwright

The driver, however, did not see the signal from the box, and after waiting about three minutes he moved the engine back on a hand signal from the guard in the sidings; by this time the signalman had re-set the points so the engine went along the main line instead of into the sidings. Shortly afterwards the driver saw the Up Advanced Starter change to clear and wrongly assumed be had been sent to Penmaenmawr by mistake and that the signal had been cleared for his return to Llandudno Junction. He made no attempt to verify the situation from the guard, who had then come up to the engine from the sidings, and during the next three minutes nothing was done by either man to attract the signalman's attention until the guard heard the express coming and showed a red light, on which the signalman threw the Up line signals to danger.

It was considered probable that the engine had whistled a second time although the driver denied it, but it was held that before lowering the signals for the express the signalman should have taken more care to satisfy himself under Rule 69 that the engine had responded to his hand signal and had moved clear of the Up line; the acceptance of the express was in order. The light engine driver also failed to observe Rule 55, although he was detained on the Up line for the five or six minutes which preceded the collision, and the goods guard was slow to appreciate the situation. There was some doubt, however, whether the signalman, who was young and comparatively inexperienced, had been sufficiently instructed in his duties under Rule 69, which could have been read as permitting the acceptance of one short whistle for "clear inside", contrary to its intention. It was recommended that the Rule should be revised to remove any possibility of misinterpretation and this has now been done.

A track circuit which would have prevented the accident has since been provided, and further track circuiting is to be installed at Penmaenmawr when the box is renewed in a much better position close to the connections where most of the shunting takes place. This is to be done before the end of 1951, and at the same time ground signals will be provided. Their absence was an important contributory factor in this case

and, the position is being reviewed at other places where regular shunting movements are carried out at some distance from the box under hand signals.

Notes

[1] John Dixon has kindly identified the 'Royal Scot' as no.46119; and

[2] The light engine was 'Crab' no.42885.

[3] This is an excerpt from *Accidents which occurred on the railways of Great Britain during the year 1950*, H.M.S.O., 1951.

[4] *Penmaenmawr: rails of granite* by Mike Hitches. Irwell, 1991. ISBN 1 871608 13 9.

[5] *An historical survey of Chester to Holyhead Railway track layouts and illustrations* by V.R.Anderson and G.K.Fox. Oxford Publishing, 1984. ISBN 0 86093 216 8.

(EXTRACT FROM THE OFFICIAL GREAT WESTERN RAILWAY REPORT ON THE RUABON TO BARMOUTH LINE 1924, courtesy of the Llangollen Railway)

BERWYN STATION

Berwyn Station is 7 miles 6 chains from Llangollen Junction on the **Chester** to **Shrewsbury** line and serves the villages of **Berwyn, Vivod, Llantysilio, Llandinam** and **Rheisl** with a combined population of about 1,000.

There is only one platform and it is on the Down side of the line.

The station buildings, which are of yellow brick with half timbered upper storey, comprise:-
Booking Office; General Waiting Room; Ladies Waiting Room and two Lavatories.

The staff employed comprises of a Station Master, Class 6. A Grade 2 Porter from **Llangollen** Station relieves at **Berwyn** for 4 hours each day. The station is lit by oil, long burning lamps are installed which are attended to by **Llangollen** Station staff.

A station house is provided which is occupied by the Station Master for a rental of 7 shillings and 6 pence per week inclusive.

There is no signal box but signals are provided, worked from an open frame on the platform, for stopping trains with conditional stops when required. There are no siding connections.

The traffic receipts for 1924 were:-

Passengers	£492.0.0
Parcels	£122.0.0
TOTAL	£614.0.0

Goods traffic is not dealt with at this station. The Crossville [*sic*] Motor Company run motor omnibuses between **Corwen** and **Llangollen** which pass through the village and road motors ply between **Rhaul** and **Llangollen**. On Sundays, the Great Western Railway run a motor omnibus between **Llangollen** and **Corwen**.

Permanent restrictions of speed boards are placed at 7 miles 5 chains, and 7 miles 25 chains restricting the speed to 25 miles per hour, and also at 7 miles 50 chains, and 8 miles 40 chains, the speed being 35 miles per hour. These boards are fitted with long burning oil lamps which are attended to every Monday and Thursday by a **Llangollen** Porter.

Special instructions with regard to fogging these boards are given in the Appendix to No 14 Section of the Service timetable.

The scenery around **Berwyn** is most beautiful. The Shropshire Union Canal starts from the **Horse Shoe Falls**, an artificial construction made for the 'purpose of supplying water to the Canal.

During the Summer period, pleasure boats run on the canal between **Berwyn** and **Llangollen**.

The principal residents of the district are;
The Misses Thomas, **Llantysilio Hall**;
Captain Best, **Vivod**;
Mister Tottenham, **Rhysgog**;
Mister Harrison, **Bryntisilio Hall**.

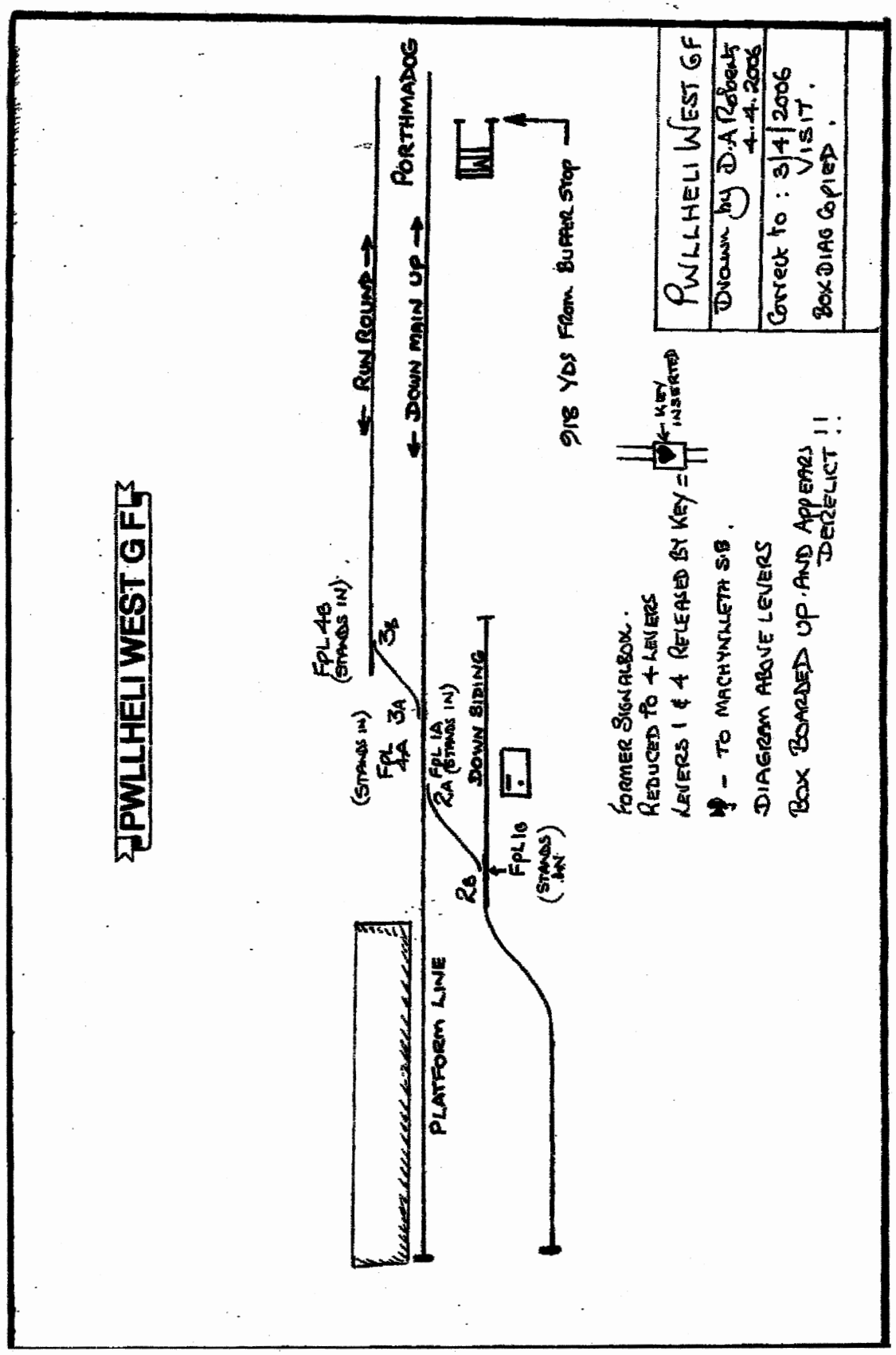
Bryntisilio Hall, formerly the residence of the late Sir Theodore and Lady Martin, is in close proximity. Sir Theodore was a noted literary man of the Victorian era and wrote the life of the Prince Consort at the command of Queen Victoria, much of the work being done at **Bryntisilio**. Lady Martin is best remembered as Helen Fawcett, one of the greatest Shakespearian actresses.

Mister Tottenham resides at **Rhysgog** and has the right to stop any train at **Berwyn** Station under an agreement dated 26th August, 1861.

The village church of **Llantysilio**, close by, contains a monument to Lady Martin also a brass plate recording that Robert Browning, the poet, worshipped there during his stay in the district in 1886.

On leaving **Berwyn** the line is on a rising gradient of 1 in 80 and passes through the **Berwyn** tunnel under the mountains known as the **Berwyn Range**. The tunnel is 689 yards in length.

(Another 'signal box' diagram by Alan Roberts, submitted by John Dixon).



Mostyn Mutual Improvement Class (MIC)
Classes of train and their handling characteristics
by Dave Millward

The reason for starting with the slowest trains is simple – a great deal of skill and knowledge is required to safely start and stop a heavy train with three-link or instanter couplings and limited brake force, irrespective of the gradient involved. A driver who can do this well, can drive any other type of train quickly through the same section, whereas, a driver who has only ever driven light, well braked, fast trains along a section of line is not in the same league.

Class 9b – unfitted freight train timed to travel at a maximum speed of 25mph. A demanding class of train from the driver's point of view, it is important to start very slowly as all couplings are likely to be of the three-link or instanter type. Conveys a brake van at the rear of the train in which the guard must ride. The locomotive brake and the brake van handbrake are the only means of controlling and stopping this type of train (unless the train stops and handbrakes are applied on individual vehicles), there is no continuous brake (air or vacuum) available. May require to stop prior to descending gradients to enable the guard to 'pin down' wagon brakes, this depends upon the weight of the train, the loco type and the length/severity of gradient involved. The train would then have to stop at the bottom of the incline for the handbrakes to be released. The train crew regularly look along the length of the train whilst travelling to ensure that the train has not become divided. Long trains may contain a lot of slack coupling within their length. Heavy vehicles such as loaded stone or cement hoppers need particularly careful handling to avoid ripping the drawbar off or snapping the coupling. Also the mood of the guard will not be improved if he is in fear of his life each time the train starts away. The guard for his part can help himself by applying his wheel handbrake (inside the brake van) as the train slows down, this helps the driver with braking the train and keeps the couplings taut, ready for a smooth restart. Good route knowledge and handling skills are very important on this type of train. Nothing is done quickly or suddenly with an unfitted train, let the gradients do the work where possible, the driver will start to brake nice and early, 'gathering' i.e. letting the buffers come together along the train gently, especially if the next stop signal is at the end of a downhill gradient, failure to 'gather' will result in a series of shoves as the wagons run into one another and being 'shoved' towards a red signal is not a nice experience, particularly as each 'shove' has the potential to cause wheelslide on the loco. Some traffic types cannot be conveyed on unfitted trains – see the Working Manual.

Class 9a – partially fitted freight train timed to travel at 30 or 35mph having brake force in accordance with table E1 of the Working Manual. This type of freight train usually has a fitted head (braked portion adjacent to the locomotive, usually vacuum in 1977), it will convey a brake van at the rear in which the guard must ride. Some vehicles are piped only i.e. have a plain pipe running from headstock to headstock with no associated brake gear; this allows them to travel in fitted or unfitted trains. The relevant buffer beam connections are painted white to indicate this. The LPG tankers will have red air train pipe cocks and yellow main reservoir pipe cocks but the vacuum connections will be white, this will allow for example a tanker which has been detached in the Mostyn exchange sidings to be collected by a class 9a train with a fitted head; these dangerous goods vehicles would not be allowed to travel in a class 9b (fully

unfitted) service. We may not have brake pipes on all vehicles on "Mostyn" but we do need to consider the make up of our unfitted/partially fitted trains. The guards section of this MIC will detail his train preparation duties and this then leads on to him checking his Working Manual and depot loads book to see which brake force/tonnage combination applies to his train over a particular route. This will ultimately dictate whether he can run at 35mph, or whether he has insufficient brake force for the route concerned and has to run at 25mph. Train handling is very similar to that outlined for class 9b except the driver has extra braking effort to work with.

Class 8 – fully fitted freight train timed to run at 30 or 35mph. Fully fitted trains must have the automatic brake operable throughout the train; piped only or vehicles with the automatic brake isolated may be conveyed, but these must not be marshalled within the last three vehicles of the train (this instruction applies to all fully fitted trains, part of the preparation duties for this type of train is to ensure that the brakes apply on the rear three vehicles whilst carrying out the brake test). On "Mostyn" the type of train that would fall into this category would be the loaded MCV coal opens rake. The guard would ride in the back cab of the loco. The coupling types on the train would be instanter 3 link. Handling skills required are similar to those for class 9 (don't do anything quickly or suddenly) mainly because of the heavy weights involved, the total amount of slack coupling potential along the train and also because the characteristics of the automatic vacuum brake are such that lighter applications and quicker release times work best in terms of smooth handling. Heavy applications at speed will often end in tears – heavy snatches, broken couplings, shifted loads, stopping heavily and sharply, often in the wrong location, including the possibility of the ultimate sin of passing a signal at danger due to being 'the last of the late brakers'. This type of train requires good route knowledge and the correct use of any gradients to help control the train (you shouldn't normally be braking when travelling uphill).

Class 7 - fully fitted freight train timed to run at 40 or 45mph. The type of train that would fit into this category on "Mostyn" might be the MCV coal opens rake if it were running empty. The brake changeover levers (where fitted) would be in the empty or light position, e.g. the MSV stone tipplers had two vacuum cylinders, only one of which was used with the changeover lever in this position. Handling characteristics are better than for the loaded train but great care is still required to avoid heavy snatches that could snap a coupling or else give the train crew a rough ride. As ever, do nothing quickly or suddenly.

Class 6 – fully fitted freight train that can travel at 50, 55 or 60mph. Parcels train or Milk train. Many air braked services fall into this category e.g. the LPG train of 11 100t bogie tankers will be typical of the trains in this category. The long bogie vehicles with screw couplings and ample brake force will travel well at these speeds. Care will still be required when starting away for example, accelerating over 1000t to 60mph has a lot of physics built in. The locomotive, e.g. a series-parallel Class 47 may have 'many horses under the bonnet' but opening the power handle beyond the quarter power notch below 15mph is pure wheelspin territory and burns in the surface of the rail usually result in a 'please explain' the following day, as well as demonstrating a lack of ability to onlookers. Likewise screaming towards a red signal with over 1000t in wet or autumnal conditions is not the work of a wise man, the physics are back again but this time the calculation is reversed. Air brakes are faster to apply and release than vacuum brakes

and generally result in a smoother ride but driving one of these services well is still a demanding pastime.

Class 5 – Empty Coaching Stock train.

Class 4 - Freightliner train, Parcels train, Company or express freight train composed of vehicles permitted to run at 70mph or over.

Class 3 – Express Parcels train composed of vehicles permitted to run at 90mph or over.

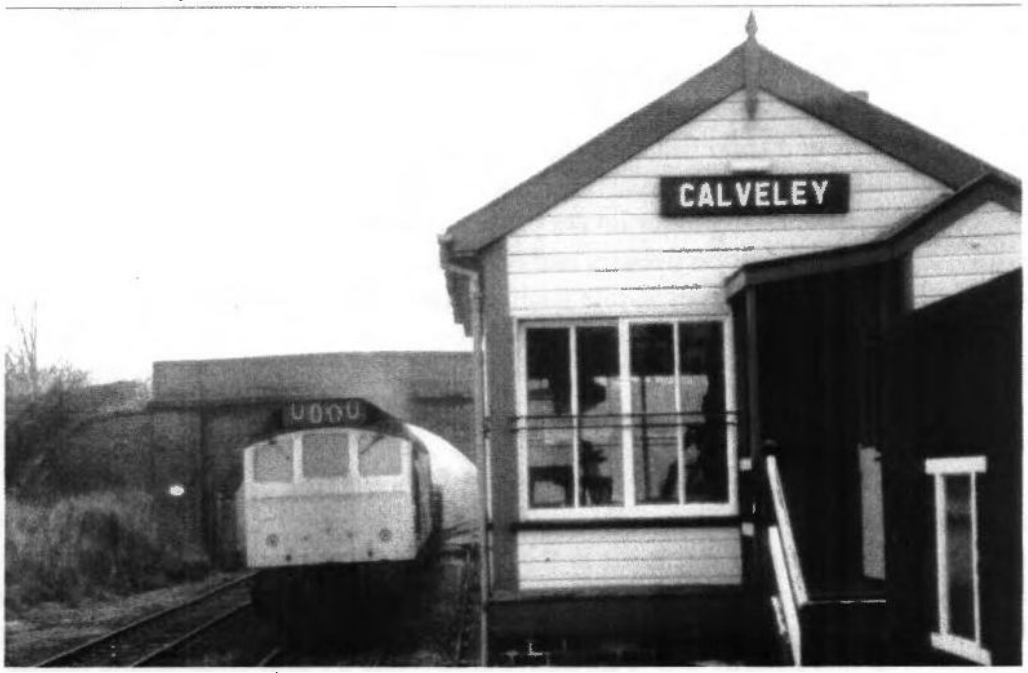
Class 2 – Ordinary passenger train, mixed train or breakdown van train or snowplough not going to clear the line.

Class 1 – Express passenger train, postal train, newspaper train or breakdown van train going to clear the line or returning therefrom; light locomotive going to assist disabled train or snowplough going to clear the line. Officers' special train not requiring to stop 'in section'.

Class 0 – Light locomotives run as class 0. Note: light locos and trains conveying one, two or three vehicles run at reduced speed because they have less brake force available and therefore require greater distances to stop in.

(Previous parts of the "MIC" have appeared in "BMRJ" issues 10, 11, 12 and 13).

CALVELEY, 1978



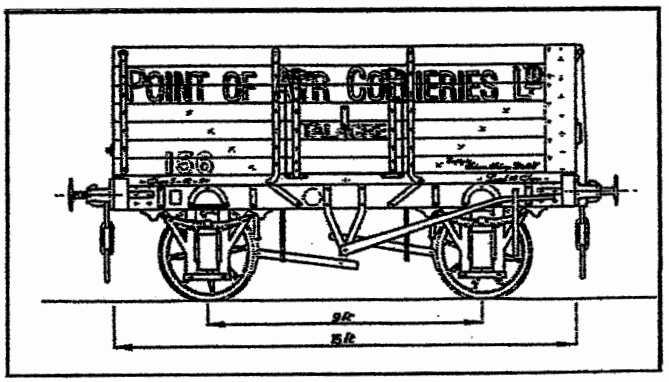
Taken from the same vantage point as the other picture (on page 4), Class 25 loco No.25162 heads a train past Calveley signal box on its way to Crewe. The overbridge provides access from the A51 to the canal moorings (to the left, out of shot) and a farm. This was the 2nd box here, replacing an earlier one in late 1901 and was fitted with a 30 lever LNWR 'Tumbler' frame of which 17 were in use initially. Later, after the last of the sidings' connections were removed, the frame was reduced to 15 levers controlling only up and down line signals and a crossover. The standard box design, LNWR Type 4, was to size G and finally closed in August 1982 and was demolished the following year.

Workshop notes, no.15: Photocopying for innumerate modellers

It is a truism (with some truth behind it, like most truisms) that the population can be divided into two sorts of people: first, those who can add up but can't spell; and second, those who can't add up but can spell. I fall into the second category, and it occurred to me that many modellers must be mystified as I was by such mathematical concepts such as 'ratios' and 'scales'.

So, if you are one of those who can do "2 + 2 = 4" in your head, don't bother to read any further!

Photocopiers Most people these days have access to photocopiers - they are common office equipment and copying facilities are often available at low prices in many High Street shops, filling stations, etc. You can buy a multi-function copier for well under £100, which, when connected to a personal computer will allow you to print from the PC, send fax messages, print photographs from digital cameras and scan documents and pictures as well as photocopying in colour and black-and-white. They will usually work as 'stand-alone' copiers. Bigger machines (as well as costing much more) are obviously more flexible than smaller ones – they will have enlargement and reduction facilities, as well as accepting A3 size (twice the size of this page) originals. Copiers do exist which have an even larger capacity, but these are necessarily quite expensive: architects or drawing office suppliers shops sometimes provide a service; or, you can beg a favour from someone who works in such an office!



Diag.1: a 4mm:1ft scale drawing of a coal wagon from the 1930s

Enlargement and reduction As modellers, a lot of our copying will involve drawings which may be required in a different scale to that of the original. So, how do you calculate the enlargement or reduction required? You must first know (or calculate) the scale of the original drawing; very often this will be quoted on the drawing, e.g. "7mm to 1ft", or "1:43.5" (this is known as a ratio, where 1 unit on the drawing is the equivalent of 43½ of the same units on the real thing); but beware! - don't take a quoted scale as 'Gospel', as the drawing may already have been reduced or enlarged. Check!

The presence of a scale such as:

"0 1 2 3 4 5ft
"

on the original drawing can make things easier - you can use a ruler to measure the distance between "0" and "5ft"; work out what the equivalent of 5ft will measure on your required version, then do a simple calculation: 5ft on your required drawing divided by 5ft on the original drawing.

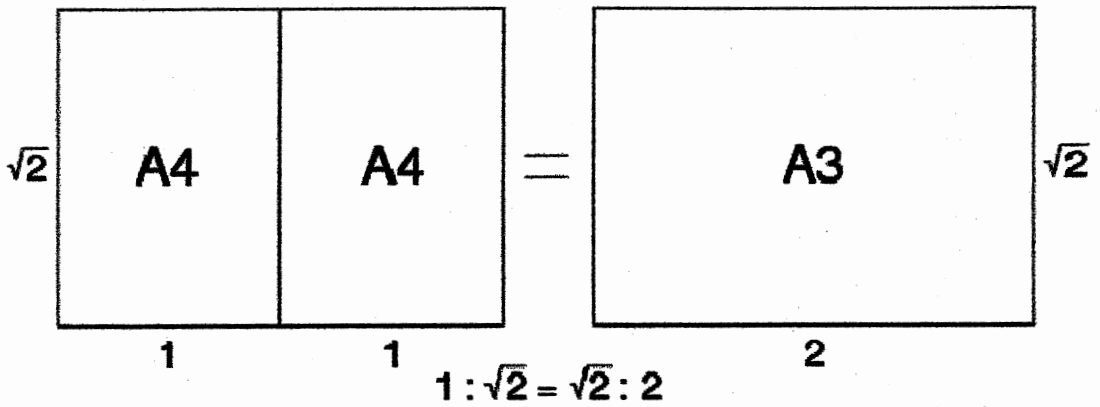
An example: You have a 7mm scale drawing which you want to convert to 4mm scale. So, 5ft in 4mm to 1ft scale is : 20mm (5 x 4) = the desired scale. On the original 7mm to 1ft drawing, 5ft will measure 35mm (5 x 7). Therefore the conversion factor (from 7mm scale to 4mm scale) will be: 20 divided by 35 = 0.571, or 57.1% (the same as 4 divided by 7). Set this factor on the enlargement/reduction control on the copier (your copier may only accept whole numbers, in which case enter 57%), make a copy and then check the result by measuring the reduced photocopy. It is always a good idea to check, because (a) your calculations may have been wrong (!), or, the machine may need adjustment. In this latter case, there is not a lot you can do about it straight away, other than guess what the error was and make another copy taking this figure into account: trial and error will get the correct scale drawing in the end! You could well be satisfied with a less-than-perfect scale result in any case – particularly if you are a devotee of the 'work-from-dimensions-rather-than-the-drawing' school. Of course there is a more scientific way than 'trial and error' to go about quantifying a machine's 'built-in' error and calculating a corrected conversion factor: if 5ft on the original comes out as 19mm instead of the required 20mm on your copy, you first have to divide the required measurement of 20mm by the test result of 19mm, to get 1.0526; secondly, multiply your original conversion factor (57.1%) by this correction factor and you get (57.1 x 1.0526) 60.1. Try this as a new conversion factor of 60% and you should get a more acceptable result.

You will find that most copiers have a similar range of enlargement/reduction available. Enlargement is usually up to 2x (i.e. 200%) in several stages, including a 'fine-tuning' (normally 1%) increment; reduction normally goes down to 0.25x (i.e. 25%). These figures are built-in to the machines to cover the common office needs of converting A4 size (210mm x 297mm) originals into A5 (148mm x 210mm) copies, or vice versa.

(Note on paper sizes: you may have wondered why a piece of A4 paper measures what it does. The use of International ('A') paper sizes dates in the U.K. from British Standard 730 (I.S.O. 216) published in 1937, and is based on a rectangle with an area of one square metre, the sides of which are in the ratio of $1:\sqrt{2}$, i.e. 1:1.4142135. The following brief description by Markus Kuhn explains the system very well:

The ISO paper size concept

In the ISO paper size system, the height-to-width ratio of all pages is the square root of two (1.4142 : 1). In other words, the width and the height of a page relate to each other like the side and the diagonal of a square. This aspect ratio is especially convenient for a paper size. If you put two such pages next to each other, or equivalently cut one parallel to its shorter side into two equal pieces, then the resulting page will have again the same width/height ratio.



The ISO paper sizes are based on the metric system. The square-root-of-two ratio does not permit both the height and width of the pages to be nicely rounded metric lengths. Therefore, the area of the pages has been defined to have round metric values. As paper is usually specified in g/m², this simplifies calculation of the mass of a document if the format and number of pages are known.

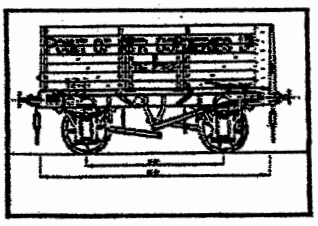
ISO 216 defines the **A series** of paper sizes based on these simple principles:

- The height divided by the width of all formats is the square root of two (1.4142).
- Format A0 has an area of one square meter.
- Format A1 is A0 cut into two equal pieces. In other words, the height of A1 is the width of A0 and the width of A1 is half the height of A0.
- All smaller A series formats are defined in the same way. If you cut format A*n* parallel to its shorter side into two equal pieces of paper, these will have format A(*n*+1).
- The standardized height and width of the paper formats is a rounded number of millimeters.

In short, this means that if the short side is doubled, or the longer side halved, then the ratio remains the same. A0 (1 sq.metre) therefore measures 841mm x 1189mm, Al measures half this in area - 594mm x 841mm, this page is A4 size – 210mm x 297mm, and so on down to A10 which is 26mm x 37mm).

These limits of 2x and 0.5x when enlarging or reducing drawings raise another potential problem: .if you want to convert something using a conversion factor outside these limits, you have to do it in stages.

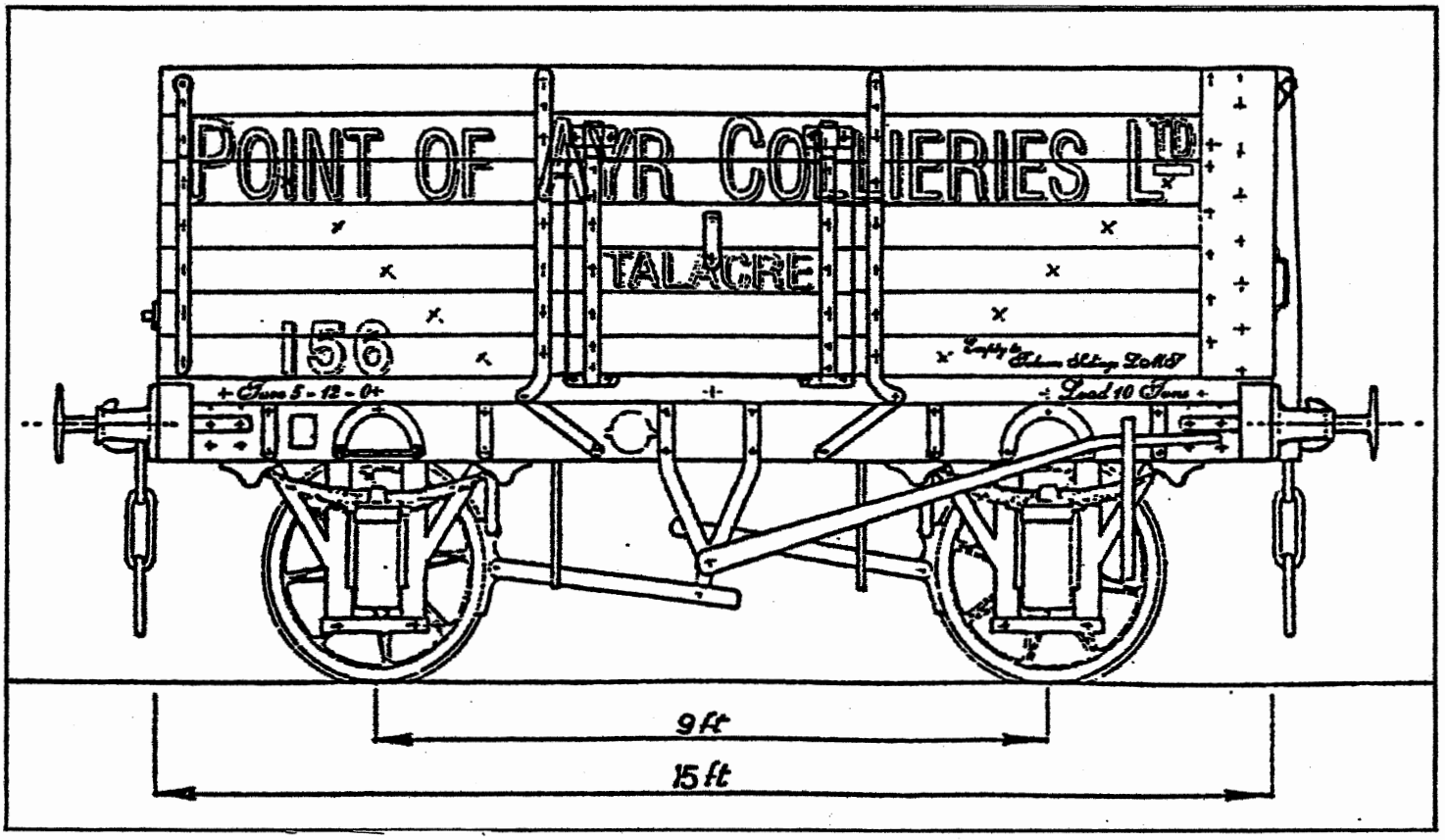
Things to bear in mind when enlarging or reducing by any significant factor include the fact that any imperfections present are made more obvious by enlargement; luckily, the opposite also applies - reduction makes errors less obvious. But reduction very often has a detrimental effect on any text present:



Diag.2: the same Point of Ayr colliery wagon drawing reduced to 2mm:lft scale

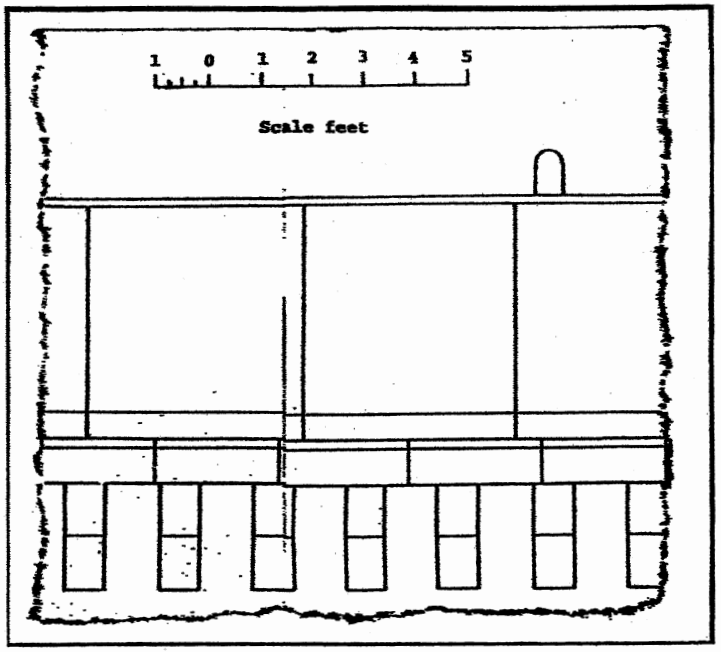
- you may not be able to read it! Added to this 'illegibility factor', faint lines on the original may not appear at all on the reduced copy.

There are lessons to be learned from the above when you are producing drawings yourself: (a) make them to a bigger scale than you eventually want, so that reduction will hide some of your 'pigs ears'; (b) use a scale which will make the overall area of the drawing less than A4 (210mm x 297mm) size, so that it will be acceptable by most machines; (c) any text must be large enough in letter size to stand reduction without becoming illegible. There is an alternative here - don't put any text onto the original drawing, but reduce it to the required size and then add the lettering; (d) incorporate a simple ('0 1 2 3 ...ft') scale so that dimensions can be scaled off the drawing whatever reduction (or enlargement) is used - don't just say '4mm to 1ft scale' or whatever.



Diag.3: the same drawing, enlarged to 10mm:1ft scale; some horizontal lines are no longer quite straight

Sometimes, distortion creeps in when enlarging: a line which was originally straight turns out very slightly curved, and angles can be slightly distorted. But these are faults inherent in optical systems, where there is no such thing as a 'perfect' lens! Where it can make difficulties is when you have reduced a too-large original onto several smaller sheets and then taped them together: you may find that lines on the original do not meet up on the edges on your Sellotaped version!



Diag.4: Part of a drawing of an LNWR water tank, to show what can happen to joins on photocopied sheets. Usable for modelling, but not very attractive!

Copyright is not usually a problem. The law allows you to make a copy of any published or unpublished drawing for purposes of your own private study or research. But be warned: photocopying bank notes is frowned on by the Constabulary!

Note: this is a revised and updated version of an article that first appeared in "Modelling Railways Illustrated" in November 1995.

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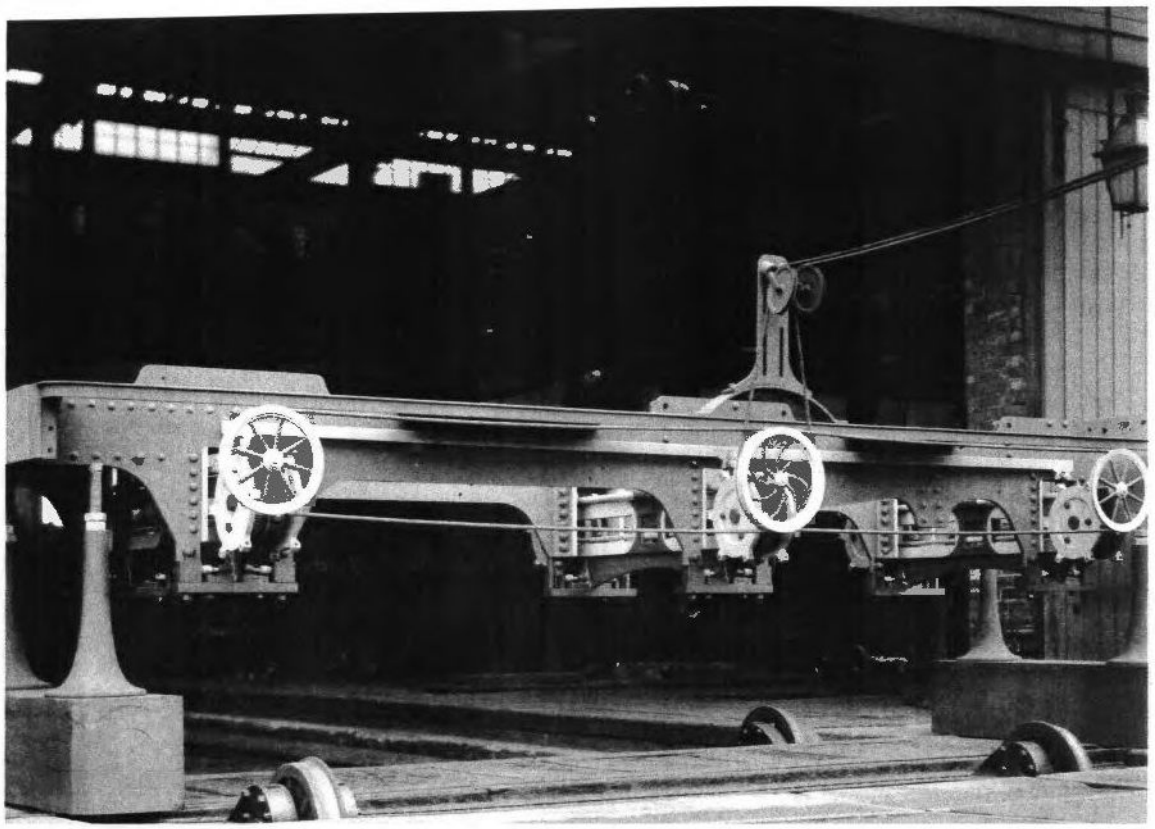
EAST YORKSHIRE & CROSSKILLS' CART & WAGGON CO., Ltd., BEVERLEY. 134

LUGGAGE TRUCKS

(As used on Railway Platforms).

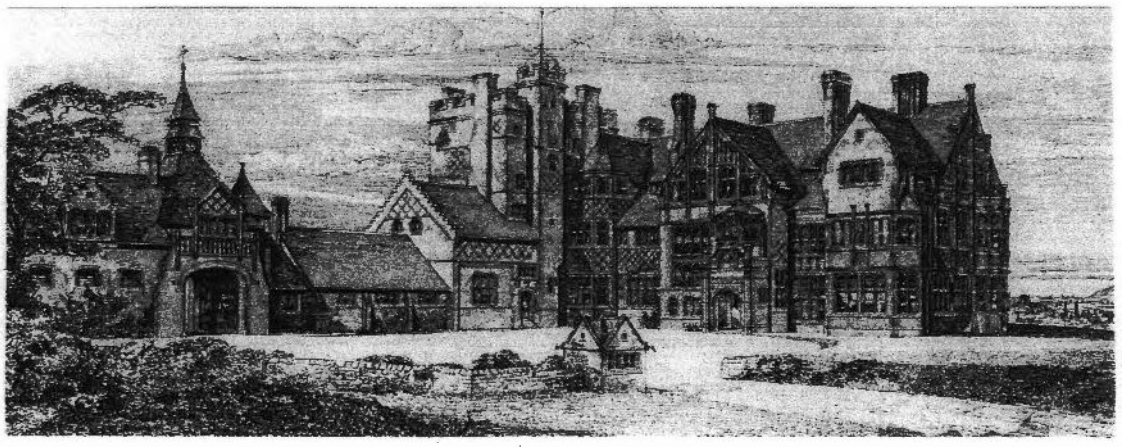
No	Height	Wheels	Height of Shoe	Prices
22	54-in.	12-in.	21-in.	as per list.
23	66-in	12-in.	21-in.	..
24	72-in.	14-in.	24-in.	..

Another drawing from the catalogue (dating from about 1904) in Eric Power's collection.

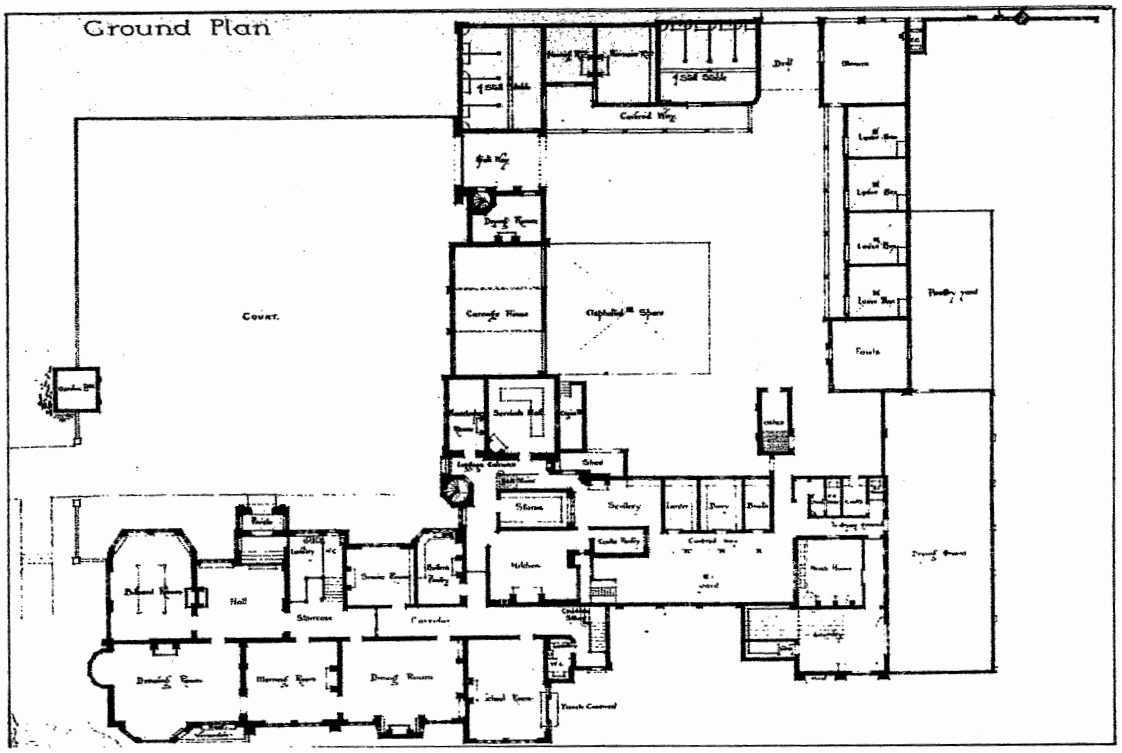


Ramsbottom's hornblock facing machine: as shown here, the machine fits around the frames of an 0-6-0 DX (or several other locomotive designs with the same wheelbase) and could grind all twelve wearing surfaces simultaneously whilst ensuring the correct dimensions. An example of the L.N.W.R. engineer's promotion of standardisation, so that (for instance) the coupling rods of any DX engine were interchangeable with those of any other engine of the class.
The machine has been placed on a traverser and brought outside at Crewe Works for this official photograph in July 1877.
(Photograph from the L.N.W.R. Society collection, courtesy of Norman Lee).

Barrowmore Hall, 1881



While I was waiting for an old map to be copied for me by the Flintshire Record Office, my interest was aroused by a book on their shelves that I had previously never seen: Edward Hubbard's *The work of John Douglas*, published by the Victorian Society in 1991 (ISBN 0 901657 16 6). Now I knew that John Douglas was a prominent architect in Chester in Victorian times – my wife once worked for a firm of architects called Douglas, Minshull which was a 'descendant' of John Douglas's architectural practice – so I flicked through the book, and firstly found an engraving of Shotwick Hall (a local landmark where I live) and then came across mention of Barrowmore Hall. I hadn't



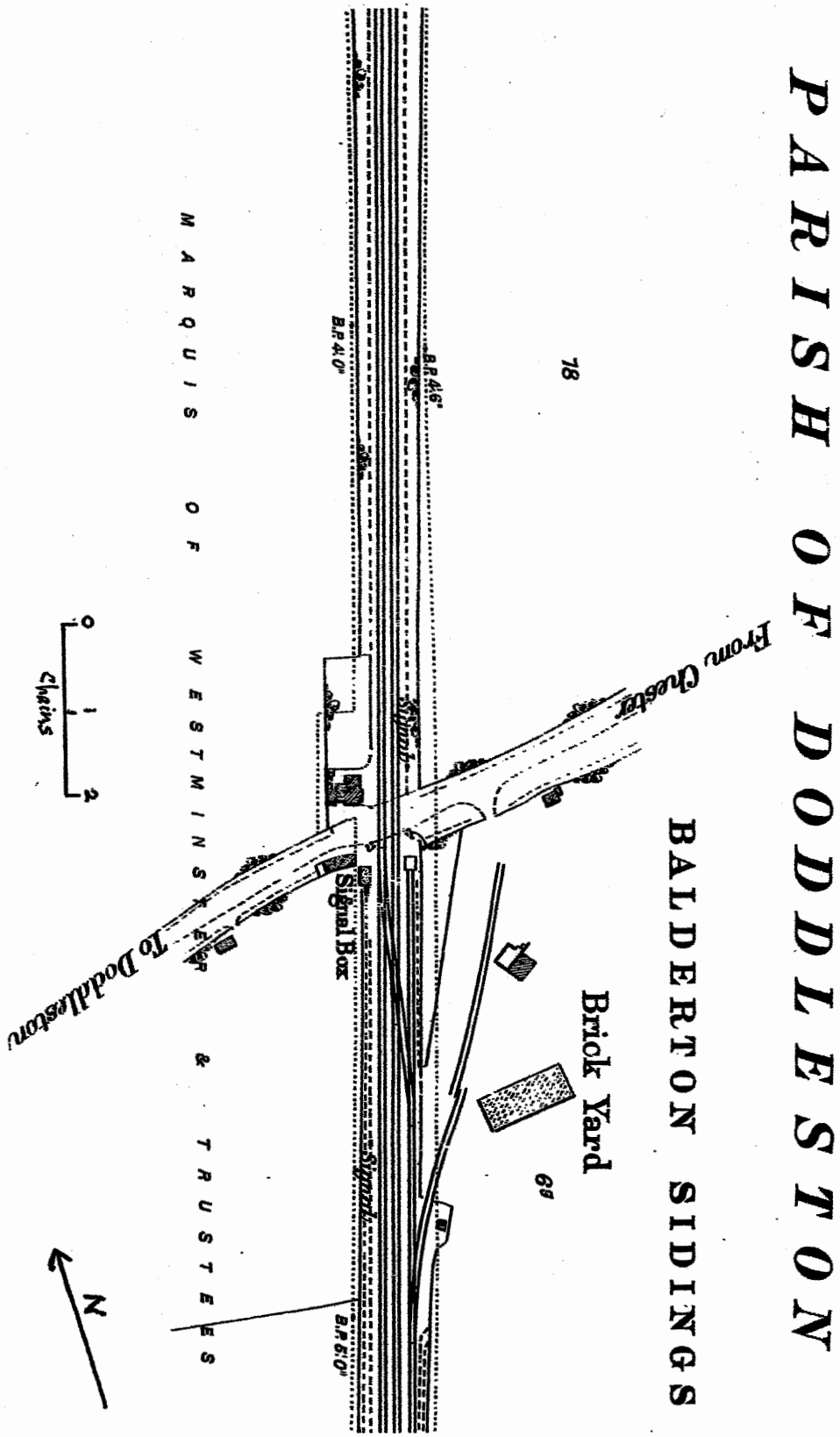
previously realised that the Hall was designed by Douglas. The book mentions that the Hall had been built in about 1881 for H.Lyle Smith, a Liverpool grain merchant. The book continues: " ... it was one of Douglas's largest country houses ... An additional room (a school room, with children's staircase adjoining) was placed beyond the dining room on the garden front; the hall was two-storeyed with a gallery, and the service quarters included such refinements as a luggage entrance and a laundry with adjoining drying ground ....".

In issue no.7 of "BMRJ" (June 2006) we printed a photograph of Barrowmore Hall taken after the 1940 German air raid damage which led to the demolition of the original Hall.

(The illustrations first appeared in *Building news* 1881, and the drawing of the Hall was by E.Hodkinson).

Balderton sidings, from an 1883 G.W.R. plan (before the building of the Eaton Railway's interchange with the standard gauge in 1896. (*See also* the next pages).

(↑ to Chester)

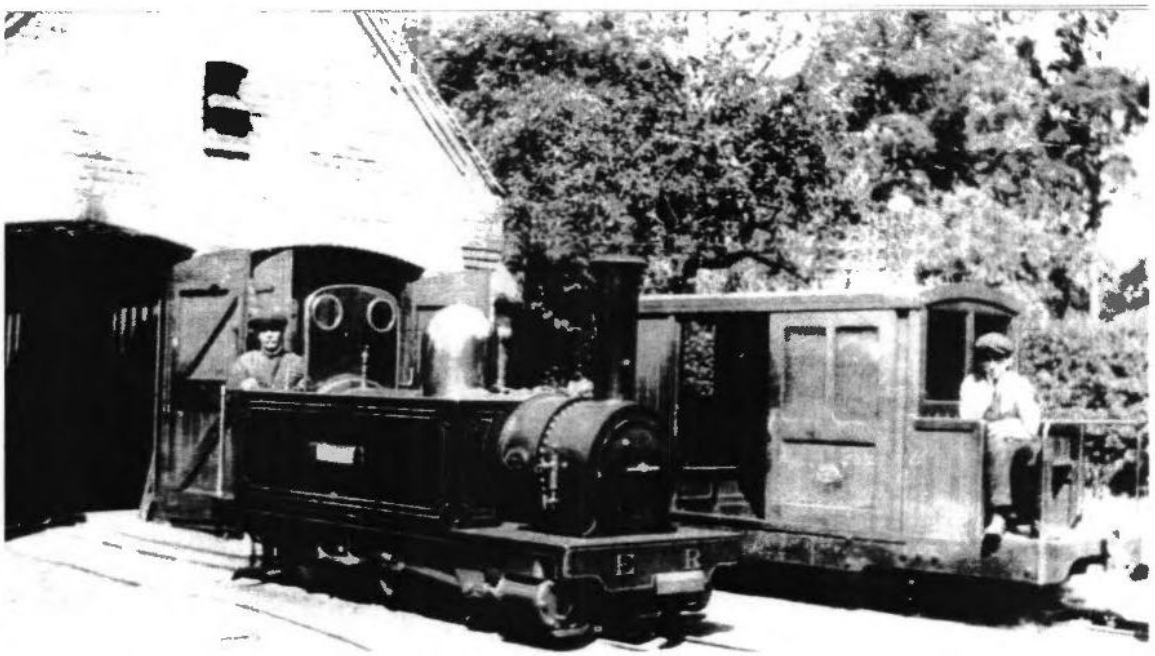


(↓ to Wrexham and London)

"Some memories of Balderton and the Eaton Railway"

by Syd Wainwright

The 15in gauge Eaton Railway, opened in 1896, ran from Balderton station goods yard on the Great Western Railway to the Duke of Westminster's residence, Eaton Hall. The railway was about three miles long and there was a branch to the estate works at Cuckoo's Nest, which was connected to the main line by a triangular junction about 50 yards east of where the line crossed the Chester-Wrexham road. This branch also served the sawmill at Belgrave, where the engine shed was also situated.

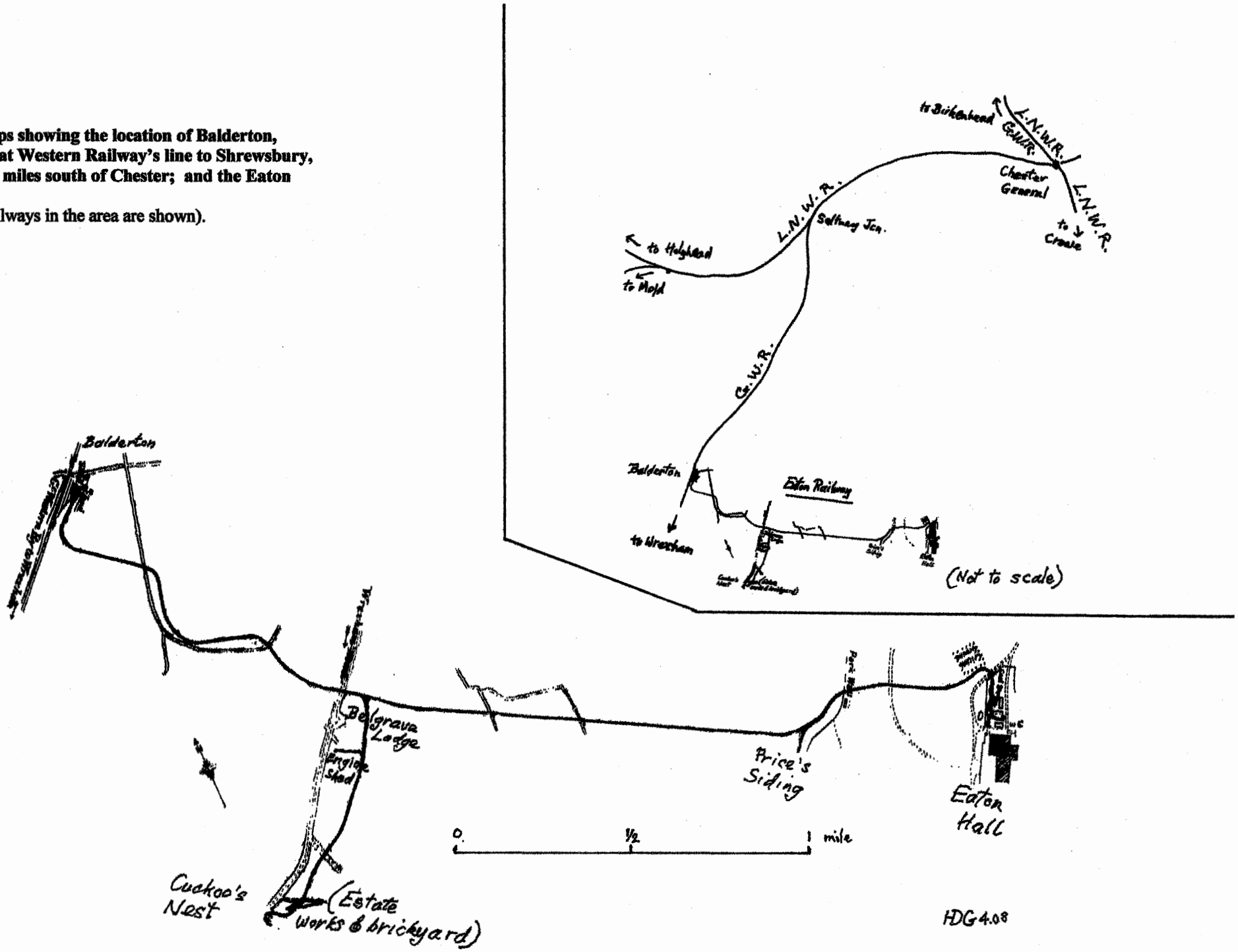


This picture was given to me by my mother many years ago, and shows Eaton Railway 0-6-0 "Katie" (the second E.R. locomotive to carry this name) outside the engine shed at Belgrave. The person on the left was the engine driver Harry Wilde and on the right was my mother's eldest brother, Thomas Dryland, who was guard and brakes-man during the years 1919-1921 and afterwards became a forester and sawyer at Belgrave.

It was the practice on the Eaton Railway at that time for the position of guard to be given to a fourteen year old school leaver who would have the job for a couple of years before moving to another post on the estate – usually the sawmill or the estate works. The experience as guard gave the lad a chance to find his way around the estate and get to know who was who and what was where.

The engine was originally named "Sheilagh" (after the Duke's wife), but after a divorce in the Grosvenor family, it was thought prudent to rename the locomotive "Katie" in about 1916. It is possible in the photograph to see where the original longer nameplate was fitted – the paintwork on the tank side not having been touched-up afterwards. "Katie" and the other steam locomotive "Ursula" were not used regularly after 1922, having been replaced by a Simplex petrol tractor. I remember seeing them stored in the

Sketch maps showing the location of Balderton, on the Great Western Railway's line to Shrewsbury, about four miles south of Chester; and the Eaton Railway.
(Not all railways in the area are shown).



carriage shed at Eaton Hall in the late 1930s, but never rode behind them. This fixes the time the photograph was taken to be between the start of 1915 and about 1922.

The locomotive shed is still in existence and in use as the office at the Grosvenor Garden Centre, the door openings having been bricked up. Like all buildings on the estate, it was built to last.

Quite a number of my relatives worked on the estate in various capacities. Consequently, when on holiday at my grandparent's home in Dodleston in the 1930s it was, accompanied by my father, always possible to get a ride on the railway and I have as a boy traversed the whole system.

I have ridden in the bogie guards van many times, once sharing it with a large lawnmower which had been to Lancelys Engineers in Brook Street, Chester, for sharpening and refurbishing. The mower had returned to Balderton in the van of a passenger train from Chester General station, and then taken across to the E.R. siding for the last stage of its journey to the Hall.

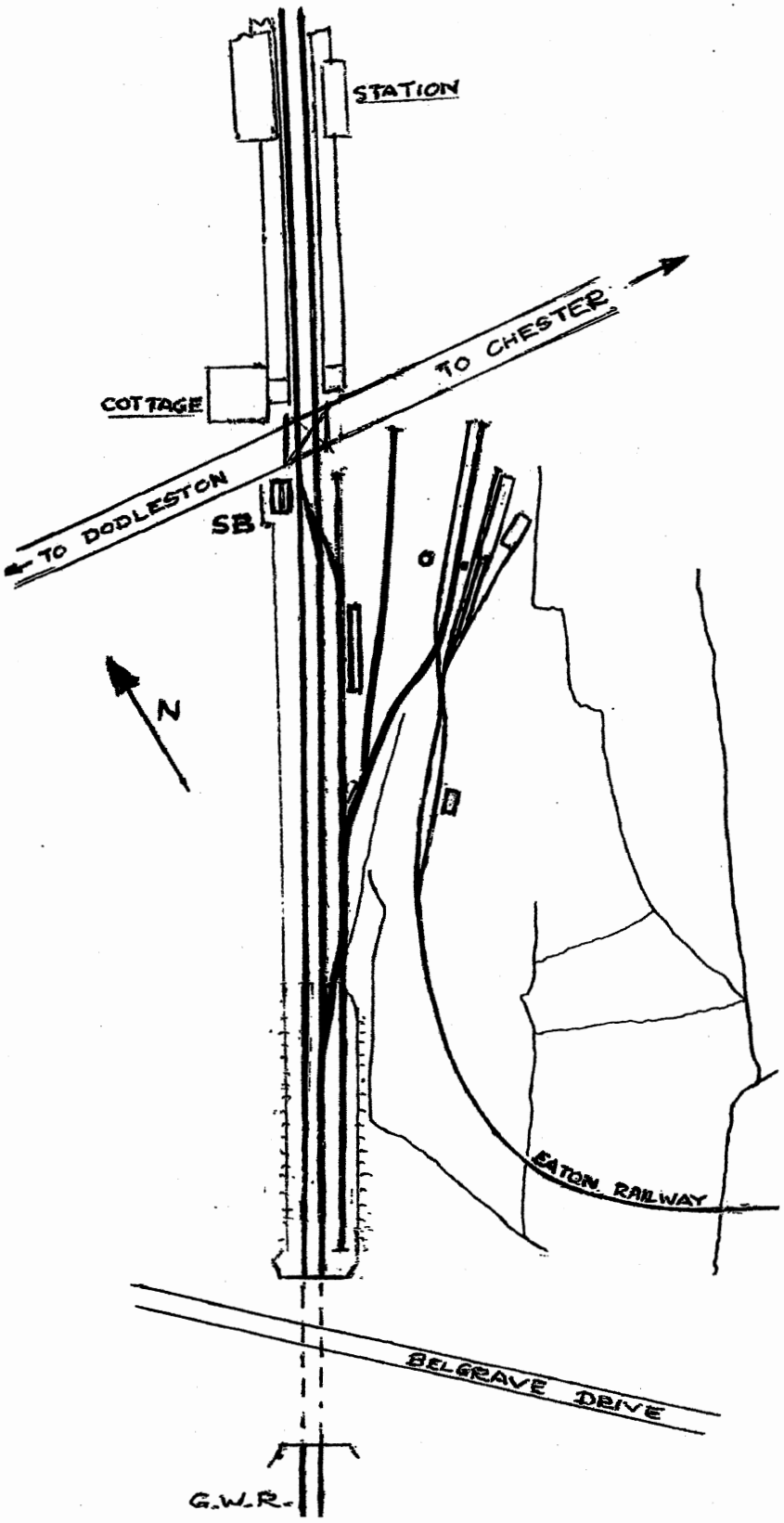
The first time I rode on the Railway my father told me that we would cross over the wall by the deer park: I imagined this to involve the track rising and falling at a steep angle – not realising that the wall was in a trench and the track across it was perfectly level.

The arrangement whereby the guard went on to other work when he reached the age of sixteen was relaxed in the case of Harry Morgan who stayed on as guard and became driver when Harry Wilde retired in the early 1930s.

The trains on 'the little railway' (as it was known locally) did not run to a fixed timetable. The principal commodity conveyed was coal which the estate used mainly for heating at a rate of about 2,000 tons a year. This was moved from Balderton to the Hall by the trainload consisting of about eight wagons and a brake-van. The journey time was about twenty minutes for the tree miles which included a stop where the line crossed the Chester-Wrexham road about thirty yards on the Chester side of the main drive. The guard would hold up the traffic (if any) by standing in the road and waving a red flag. Otherwise the railway worked as required including supplying materials to the estate works at Cuckoo's Nest where the brick and tile works were also situated.

Consequently anyone favoured with a ride may have had to wait a while for the train to turn up – if at Balderton it was no hardship. Balderton was situated on the G.W.R. main line from Chester to Shrewsbury, and in the 1920s and 1930s there was plenty to see, with a train of some sort passing or stopping every few minutes. Every type of G.W. loco (with the exception of the 'King' class) could be seen here and I can well remember watching shunting being carried out by a double framed pannier tank.

There was plenty of interesting activity to see at Belgrave sawmill where my grandfather Thomas Wainwright worked. His brother William also worked on the estate and was in charge of affairs at Balderton at one time. The circular saw was huge and was driven by a portable steam engine, very similar to an agricultural traction engine but not capable of moving under its own power.



Layout at Balderton, G.W.R., 1938 (sketch map by S.D.Wainwright)

The sawmill which was situated where the Grosvenor Garden Centre now is, produced all sorts of cut timber for use on the estate, including large quantities of fencing posts which were pickled in a large tank of creosote. I always liked the smell of creosote though its use as a timber preservative is now prohibited, I believe.

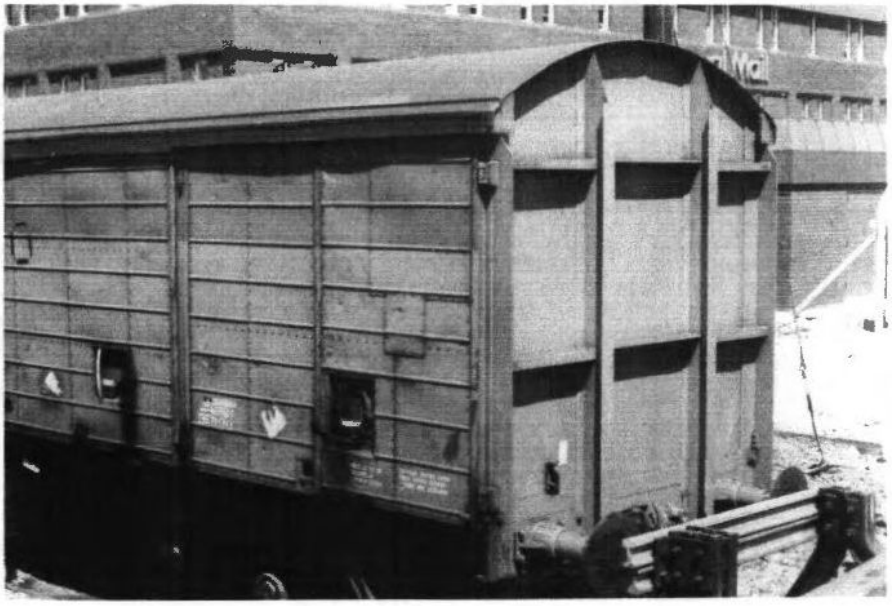
A visit to Balderton or Belgrave gave my father a chance to renew acquaintances with friends and relatives who were employed there. My father had himself worked at Balderton for about three months after leaving school at Dodleston, but decided that the type of work was not for him, and went on serve an apprenticeship as an electrical fitter at Brookhirst Switchgear Ltd. in Chester.

My last ride on the railway took place in the summer of 1938. The Second World War started a year later during which time the Hall was taken over by the Royal Naval College pupils and staff, evacuated from Dartmouth. The Eaton Railway finally closed in 1947 when the Hall was used as an officer cadet training unit for National Service men. Most of the equipment went to the Romney Hythe & Dymchurch Railway in Kent, and some of it, including the brake vans, is still in existence.

This was not quite the end however: the present Duke of Westminster (though not a keen railway enthusiast) has had some track relayed near to Eaton Hall and also has had a replica of one of the steam locomotives built. The carriage sheds and other terminal buildings are still existing at the Hall and are used to house the stock. The railway is not however usually open to the general public.

Further reading:

(1) *Minimum gauge railways* by Sir Arthur Heywood. 3rd ed., Turntable, 1974 (1st ed.: 1898).
(2) *The Duffield Bank and Eaton Railways* by Howard Clayton. Oakwood, 1968.
(3) *Sir Arthur Heywood and the fifteen inch gauge railway* by Mark Smithers. Plateway, 1995.



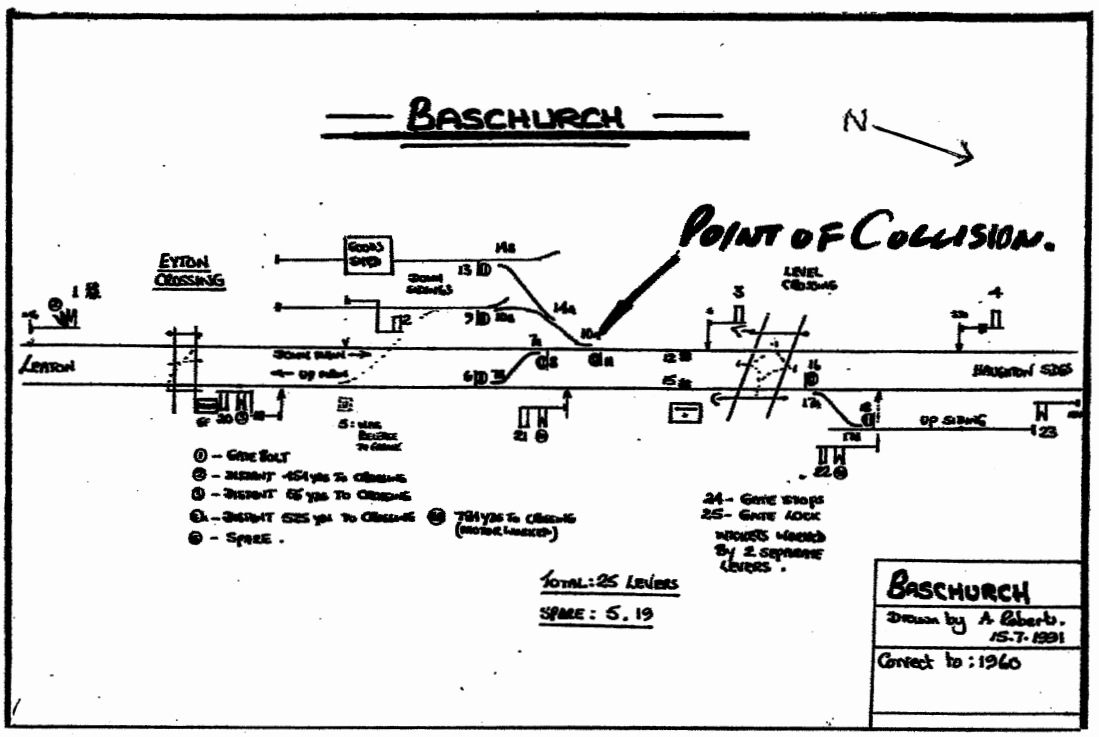
Air-braked van ZRA (ex-VDA) 200651, Chester Wagon Repair shed, 7June 1984.

The Baschurch accident, 1961

(Extract from "Dad Had an Engine Shed", an unpublished manuscript by Tony Robinson).

Generally there was an excellent record of safety regarding serious accidents, naturally breakdowns were frequent but these rarely involved any kind of personal injury or trauma beyond 'taking the blame' for causing the derailment or whatever. However there was one particular accident 'caused' by Mold Junction (6B) men that resulted in the loss of life of one Swindon and two Salop based railwaymen.

It happened on the evening of February 13th 1961 when the 6B men were working the 6.25 pm unfitted goods train from Coton Hill yard north of Shrewsbury to Saltney just south of Chester. For reasons unknown they were late getting away from Coton Hill and so on reaching Baschurch (about 7½ miles north of Shrewsbury on the G.W.-built line to Wrexham) were halted and requested by the signalman to set back into the down relief siding. Having stopped in the station they then proceeded to set back in the dark with only a ground signal to confirm that the siding road was clear. An up express passed them on its way south and shortly after this the driver (an ex Abergavenny LNWR man, Norman Barber from Ewart Street, Saltney Ferry) felt a sudden and hard resistance and naturally thought they had hit the stop block at the end of the siding. The engine and several wagons were at this juncture still out on the main line, so Norman decided as he was unsure of the length of his train and couldn't see any red light indication from the guard, to get off the footplate and walk back down the train to investigate.



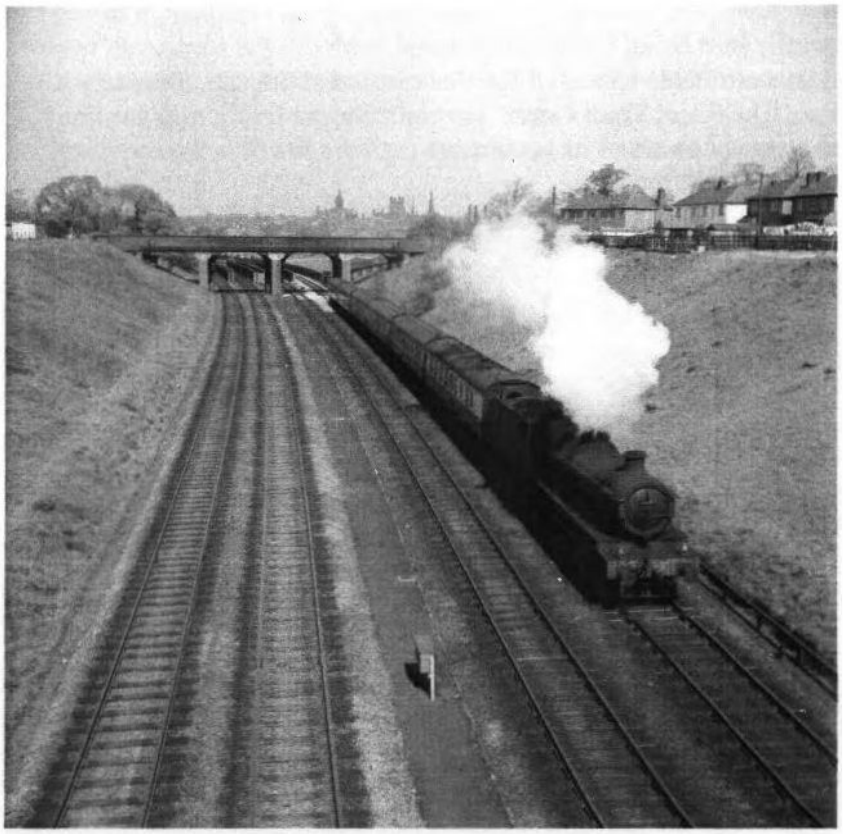
As he was walking he turned around and saw that the down signal was clear so assumed they had been given the road to Ruabon. He then returned to the footplate where his mate (Fireman Brian Dilley also of 6B) was keeping watch, whistled to indicate they were leaving and set off down the mainline. Brian then shouted that he could see a glow in the darkness that was behind their train, initially Norman thought it was the receding firebox glow from the up express but quickly realized that it was fast approaching them! With seconds to spare both men jumped off

the footplate then there was an horrific crash as the north bound express hit the wagons further back down their train, the engine (Ex-G.W. 'Hall' class No. 6949 "Haberfield Hall" of 84C Banbury shed) ploughed onto the up tracks and turned onto its side killing the driver and fireman, both of 89A Coleham shed. The first vehicle in the train was a stores van and this plus the leading coach mounted the engine, the van burst into flames killing the occupant, a stores man from Swindon. The generally held belief being that propane bottles in the stores van were responsible for the rapid and uncontrollable spread of fire that consumed the van. Strangely it was reported in local papers as "The Silent Train Crash" as even villagers living near the line did not hear the collision and were not aware of its occurrence until the fire plus the arrival of the fire services and their arc lights lit up the sky!

Looking towards Wrexham (John Dixon collection)

At the subsequent enquiry the H.M. Inspector of Railways, Colonel McMullen, questioned the signalman who (in the darkness) thought that the goods train was safely "inside" and backed up his claim by stating that he tried the points, which moved without resistance before setting the mainline to "clear". The inspector who was not happy with this explanation, felt that as far as the signalman was concerned the point blades could easily have been between the wheels of a goods vehicle and therefore free to move! In fact the leading vehicle, a bogie bolster wagon laden with pipes, was astride the point blades when disaster struck. Also there was some doubt as to the actions of the goods guard , C.P. Catterall, who despite believing the train was "well inside" couldn't remember whether he had screwed down the brake in his van or not – this would seem to give an explanation for the sudden rearwards resistance felt by the driver! Most of the above information has been gleaned from contemporary newspaper reports that omitted to give details of the goods engine but my enquiries with former Mold Junction men reveal that it was an ex-G.W. 2-8-0 of the 28xx class no. 2856 of 84E Tyseley shed, Birmingham. As the Hall class loco involved does not appear in the shed allocation lists after that date, I think it's

fair to assume the engine was scrapped as a result of the accident [in fact, it was stored at Shrewsbury until withdrawal in May, then scrapped at Swindon – Ed.].



("Haberfield Hall" in happier days: photographed by Syd Wainwright on 30 April 1960 on a Birkenhead-Paddington train, in Curzon Park Cutting – between Chester and Saltney Junction. The City of Chester skyline in the distance).

One positive thing that did emerge was that 6B fireman Brian Dilley received a commendation from the Railway Inspectorate for his prompt and cool headed action in running forward to the signal box to ensure that both up and down lines were protected from further oncoming traffic.

Air-braked van VAA 200178, Chester, 30 September 1985.

Letters to the Editor (*continued from page 4*)

(In another letter from Ireland, John Martin of Dundalk has sent photocopies of articles about James Barton, including his Scotch-Irish tunnel project mentioned on page 2 of our last issue. I hope to include a précis of some of this information in later pages).

E-mail from Peter Lawson (Hankelow) in response to a query about the provenance of this brake van pictured by John Dixon in 1978; we thought it looked very 'LMSish', but not quite right!

David: MSC BRAKE VAN: The Ship Canal bought 2 brake vans second-hand from the Bolton Wagon Company in August 1962, numbered 6373 and 6372. Your photograph of 6372 is probably LMS Diag, 1659, 20t Brake, the variant built without side lookouts. Note the flush end planks on verandah and gap in upper side handrail. The diagonal strapping on the body-side and angle bracing in top corner of side openings were fitted in late LMS or early BMR periods. A photograph of 6373 shows it to be a slightly earlier ex-MR design, LMS diag 1659, note outside framing on verandah ends and full length but 2-part upper side handrail. The main refs are in the Railways of the Manchester Ship Canal, Don Thorpe, OPC 1984 p.149, and the usual LMS wagon books, have refs if interested.
Trust above is of interest and thanks for info on 21 ton hopper wagons.
Christina says thanks for the poetry books and CD. Regards – Peter.

Greenore Hotel update no.2

Among the stuff sent by John Martin (Letters, above) were items giving more biographical information on the engineer James Barton: a photocopy of an article entitled "James Barton, engineer", published in the Irish Railway Record Society "Journal" in 1993; an obituary from "The Newry Reporter" of 16 January 1913; an obituary from the 1913 Proceedings of the Institution of Civil Engineers; plus several pieces on the projected Irish Channel tunnel. The Editor hopes to work this information into articles on 'James Barton' and 'The Scotch-Irish Tunnel project' for inclusion in future issues of "BMRJ".

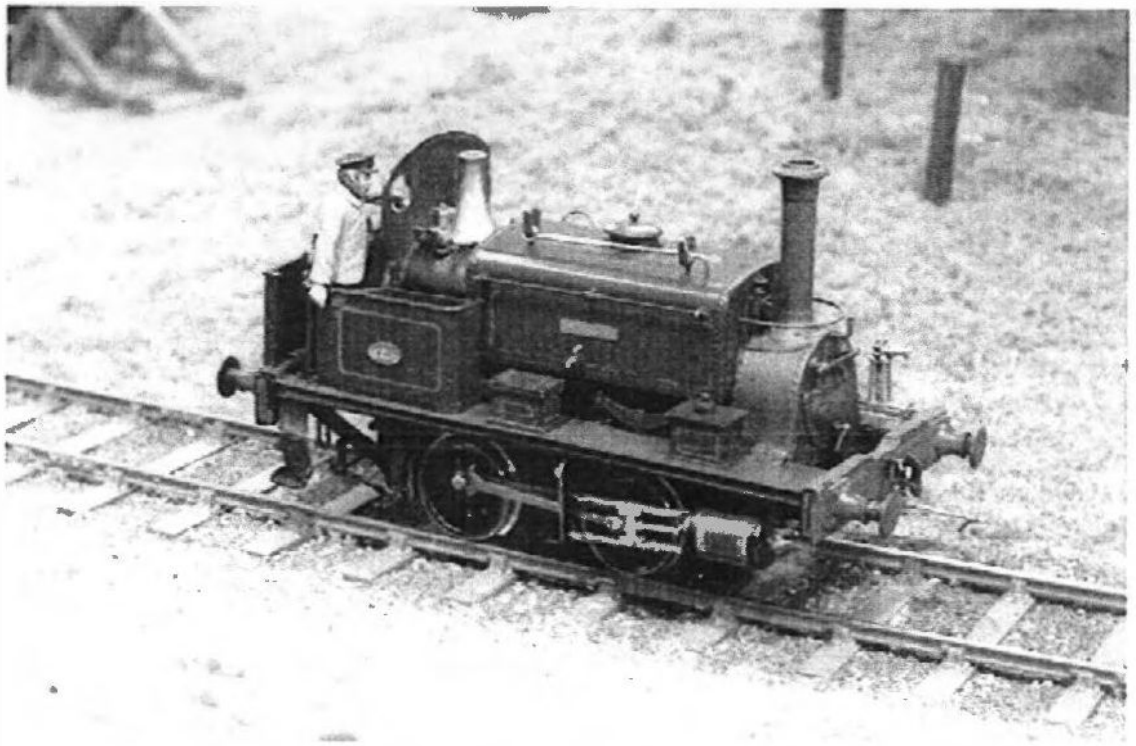
"Johnstown Road and Porth Nefyn at Harrogate"
by Emlyn Davies

Just when you think that everything is arranged, the layout checked, packed and ready to go, all the stock cleaned and serviced, all personnel ready and waiting, then suddenly it goes horribly wrong.

So began the Harrogate weekend last February. The ordered van broke down with clutch problems on the way back from London on the previous hire, and when a replacement van was eventually found it turned out to be smaller – too small in fact for even Gavin, a superb packer of vans, to get everything in. Fortunately, the operators were going to travel in two large Volvo estate cars which managed to accommodate all the extra bits and pieces.

The trip to Harrogate was quite uneventful although some parts of the journey seemed very foreign indeed. Having arrived at the venue, which is well out into the country being an agricultural showground, we unloaded the van and set up and checked the layout – everything worked – but that afternoon the hall was bitterly cold.

We were told by the organisers that there would be a buffet for the exhibitors at the venue in the evening; so on the way to find our hotel we called at Sainsbury's to stave



off the pangs of hunger. The hotel, in the middle of Harrogate, could, I suppose be described as being of 'faded elegance': the rooms were high and spacious with faux marble pillars and arches in the dining room and lounge bar. Having found our rooms, freshened ourselves up and eaten our sandwiches we went back to the showground.

On the way back through Harrogate we passed a night-club with two or three dozen sweet young things milling about outside. I don't know where they had read about putting you assets on display, but they gave me a completely new meaning to the expression "my cup floweth over". In sub-zero temperatures too.

Back at the show we had all been expecting the usual sort of stand-around buffet with sandwiches, sausage rolls, etc., but we were given quite a comprehensive menu of proper cooked dinners to be eaten at tables. Splendid stuff – we needn't have bought the sandwiches. Following this was a quick stroll around the show and back to the hotel to patronise the bar until late.

It was bitterly cold overnight, but after an excellent breakfast and some window scraping it was back to the show, where there was a comprehensive selection of layouts from 2mm right through to Gauge O and even larger, plus of course many trade stands to tempt us to part with our money.

The show was very busy all day on Saturday; the layout itself ran very well, but there were times when it was not possible to send trains from the fiddle-yard because of hold-ups at Porth Nefyn, which demands fast and efficient movements of stock to keep the traffic flowing.

All the new signals made life more interesting both for the operators and the viewing public: a significant improvement. The only thing which went wrong was a point blade becoming unsoldered, but that was quickly fixed. There were many favourable comments from the visitors, almost embarrassingly so at times. On the Saturday evening the organisers of the show had arranged for us to have a free dinner at our hotel. We were offered a good variety of choice, the food was well cooked, well presented, the staff were efficient and pleasant: altogether an excellent meal. The evening ended with more time in the bar.

On Sunday another excellent breakfast and out to frosted-over cars, it having been very cold again overnight. The show was not quite as busy on Sunday, but there was a steady flow of visitors. Again the layout ran very well but with the same problems with the hold-ups at Porth Nefyn. To keep things happening at the "Johnstown Road" end of the layout we sent some extra colliery trains and freight trains which arrived, shunted and then left again for the fiddle yard.

There were many favourable comments from the visitors, the bridge and creek areas being particular favourites. In the afternoon another point blade failed at Porth Nefyn, but5 it was soon repaired. The wheels of the locomotives became very dirty and needed frequent cleaning.

Soon it was the end of the show; I thought it was rather churlish that some of the exhibitors complained at having to buy their drinks, when they had been given two very good free dinners and their lunches – I think we were very well looked after compared with some exhibitions we have been to.

Re-packing the van was a trial for the younger, fitter members of the team, but it was accomplished eventually.

On the way back, traffic on the motorway was reduced to a crawl, so we left it and travelled back on A roads, and only went the wrong way once! When we arrived back at Barrowmore, the upper drive was closed because of a burst water main and ice, and the lower gate was locked. A key-holder was found eventually and so we unpacked the van and put the layout to bed.

A good show? Certainly, plenty of layouts, nothing outstanding, just a good variety; we were very well looked after and I certainly had no complaints. One pleasant surprise was that Dragon Models were in attendance so I was able to order some Cambrian Railways transfers and buy a wagon kit of a Machynlleth trader: they also produce kits for a Cambrian locomotive, coach and some wagons. I must keep my wallet locked.

[The team for this exhibition was: Emlyn Davies, Richard Oldfield, Richard Stagg, Gavin Liddiard, Norman Lee, and Dave Faulkner. While there, Gavin took the opportunity to take a series of record digital photographs of Emlyn's Cambrian locomotives: unfortunately, from the point of view of this magazine, in colour! My expertise with Photoshop is virtually nil, as you will see on the previous page – Editor]

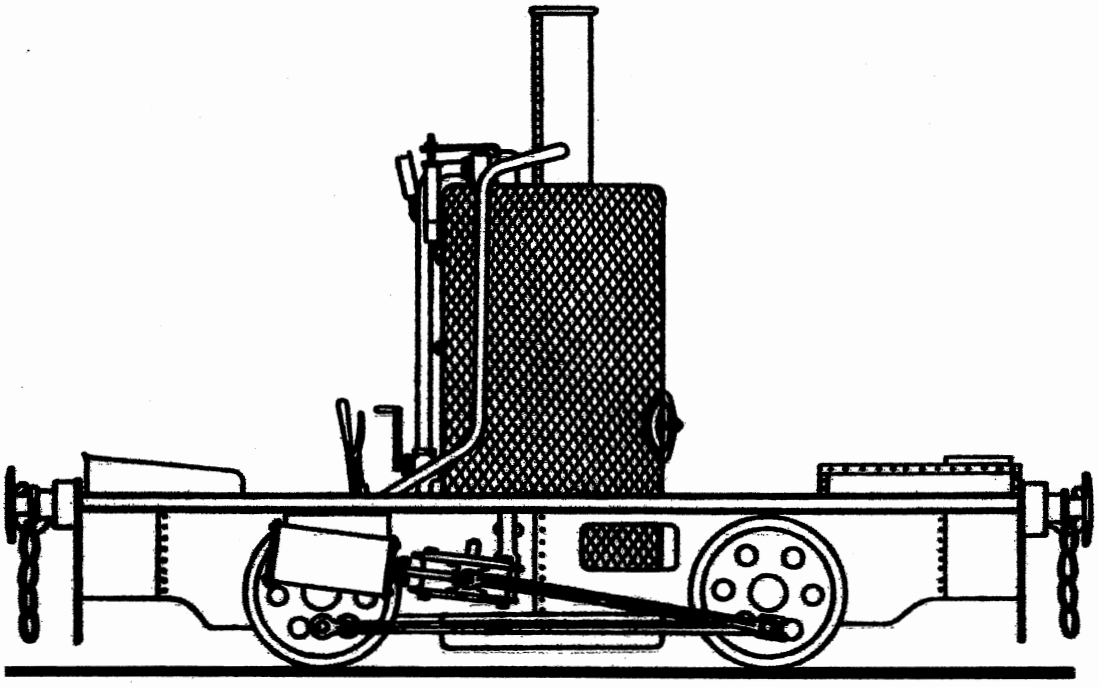
RUTHIN LIME SIDING

by Philip G.Hindley

Ruthin Lime Siding was situated on the up side of the Denbigh, Ruthin and Corwen line to the north of Ruthin Station. The original siding agreement was dated 30th November 1860 and made with Frederick Richard West (1799-1862) of Ruthin Castle, a local landowner and formerly the local MP. As originally provided, the siding curved away to the west to terminate in a small brickworks. The siding agreement was made shortly after construction of the Denbigh to Corwen line had begun and some 15 months before the line was open for traffic, and no doubt some of the bricks produced at the works would have been used in the construction of the railway.

The 1879 Ordnance Survey shows the siding still terminating at the brickworks. Approximately ½mile further west was the Craig-y-Ddywart Limestone Quarry, situated in the rising ground on the west side of the valley, which had a narrow gauge line connecting the quarry face to kilns. By 1900 the brickworks had disappeared, replaced by a farm known as Brickfield Farm, and the siding extended to the quarry. The actual junction with the LNWR had been moved slightly nearer to Ruthin and the curve away from the main line eased to a larger radius. According to the LNWR Diagrams of Private Sidings for the North Wales Division dated 1915, the revised connection with the LNWR was now 1151 yards from Ruthin Station and comprised 48 yards of track on the railway company's land and a further 11 yards on the traders land maintained by the LNWR at its own cost. From the brickworks site the quarry railway followed the route of a former roadway between the brickworks and the main Ruthin to Denbigh road, which it crossed on the level to reach the quarry. The quarry owners were the Ruthin Lime Co., later the Ruthin Lime & Limestone Co.Ltd. and then the Ruthin & Denbigh Tar Macadam Co.Ltd.

Two locomotives are known to have worked on the quarry railway. The first was an 0-4-0 vertical boilered locomotive with outside cylinders, possibly obtained second-hand from the Trevor Brickworks near Ruabon according to the records of the Industrial Railway Society. It was described and illustrated in the *Model Engineer* of 11th February 1943:-

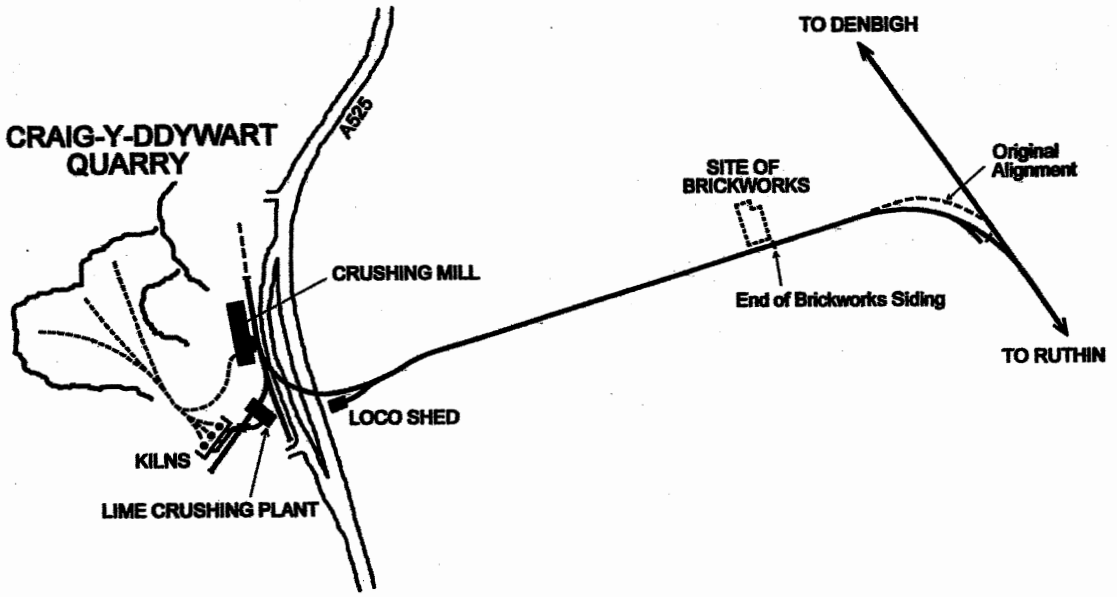


DEAR SIR,
I noted with great interest the model locomotive illustrated on the cover of the "M.E." of December 31st.
It was stated beneath the illustration that no definite particulars of the model were available. I am enclosing a drawing (from memory) of what I believe may have been the prototype. This loco was used during the last war, and for some time after, for hauling wagons of limestone and lime from a quarry some two miles from Ruthin in the Vale of Clwyd (N. Wales), down to the L.M.S. (then L. & N.W.R.) line which runs from Ruthin to Denbigh.
To the best of my knowledge, the loco was scrapped in 1920 or thereabouts, and replaced by a petrol-driven machine. I can give no maker's name, but here is a brief description of the job as far as I remember it: vertical boiler with lagging of asbestos matting (apparently held in place by wire netting) 2 inclined cylinders driving 4 coupled wheels, Stephenson valve gear, inside frames, apparently no brakes, the driver using the reverse gear and throttle in lieu of same. When travelling in forward (?) direction it was necessary to lean out of the "cockpit" in order to see round the boiler. Power as far as I can remember, was not phenomenal - about 8 wagons was the limit and this with terrific puffing and gusto - great leakage of steam from front-end glands etc. The front end of the chassis enclosed the water tank and the rear was bunker space - in all, a most unlovely contraption, but still a loco, and as such will no doubt be

welcomed by readers of the "M.E." who are interested in the unusual and antique.

A. LAMPLOUGH, Bromborough.

It was replaced by a new 40hp Motor Rail Simplex petrol locomotive, works number 2021 ex works on 16th June 1920, which was provided with a diesel engine in 1956.



The final layout of the quarry line was as follows. After passing through the gate which marked the boundary of the BR line, a catch point was provided on the quarry side of the gate, although this is not shown on the LNWR siding diagram. There were no exchange sidings here, so the quarry locomotive must have propelled the loaded wagons from the quarry ready for the main line locomotive to collect and exchange for empties. Curving away from the BR line, the quarry railway followed a fairly level course through fields to reach the Ruthin to Denbigh road. Just before the level crossing a connection was made on the left side of the line to the timber locomotive shed, which also served to house the weighing equipment of a wagon weighbridge alongside the shed on the quarry line. The line then crossed the widened and improved main road on the level and then, curving to the right, crossed the old main road, later used as a lay by. It ran alongside the old road passing the rather ramshackle stone built crushing mill with its wagon loading chutes and square brick chimney to terminate just beyond, although there were signs that it once continued further into a low level area of the quarry. Two sidings trailed off after the old road crossing, one curving right under the lime crushing plant to terminate alongside a loading dock below the three stone limekilns. On the loading dock two foot gauge track ran from under each kiln then crossed the standard gauge siding on a bridge to feed the lime crushing plant. The point-work on this track had cast iron frogs and switches similar to those used at the Dinorwic Slate Quarry, and the wagon(s?) had double flanged wheels. In the quarry itself a narrow gauge system would have originally been used between the quarry face and kilns and crushing mill, but latterly road transport was used and no traces remained of the rail system.

The standard gauge line was illustrated in the July 1956 *Railway Modeller* with a letter from J.I.C.Boyd under the heading of "how (not) to lay track":-

> *Modellers of works or factory branch lines and sidings are probably unaware of the extreme decrepitude of some sidings coming under this category. In some of the narrow gauges one is quite used to finding the rails buried beneath a sea of mud, held together by grass; and as to gauge, what do three or four inches matter?*
> *Standard-gauge lines, where loads are heavier and the horse or man is not so often called upon for the tractive effort, are seldom allowed to attain such conditions of neglect. Imagine, therefore, the extreme case illustrated here, on a branch line almost half a mile in length over which mechanical traction is used! The modeller would find it more difficult to reproduce this section than attain the highest flights of perfection. Before anyone wants to be able to say he has really imitated an existing lime-works feeder, the following conditions must be met*
>
> *1. The gauge must vary at all times.*
> *2. The rails must all be bent and the heads preferably split and worn.*
> *3. Sleepers may be used at or near joints, but there is no need to have more than one in the middle of a rail length.*
> *4. Normal sleepers are barred; old wagon head-stocks or fencing posts of differing lengths are more suitable.*
> *5. Any attempt at levelling or aligning the track is forbidden.*
> *6. Alternate lengths may be laid with differing weights of bullhead or flat-bottom rail to suit materials on hand, and a section with one length of each on either rail is permitted.*
> *7. There must be no ballast but plenty of "nature."*
> *8. Part of the line may be protected by a broken wire fence, but the rest must make its way drunkenly across the fields, through a herd of cows, and in certain places the railheads must disappear beneath the turf almost altogether.*
> *9. Tie-bars may be used instead of sleepers, but they must be bent and seldom fixed.*
> *10. Fishplates may be held by one bolt.*
>
> *Well, there's the specification. And if you can get an unsprung model wagon over it without derailment rip it up - you've cheated!*
> *(The prototype is to be found in the Clwyd valley, North Wales. It is worked by a Simplex petrol rail tractor, hauling one wagon at a time.)*

Rather surprisingly in view of the foregoing, the Foxline publication on the Corwen to Rhyl line ("Scenes from the Past 18: Railways along the Clwyd Valley" by W.G.Rear) states that occasionally a BR locomotive worked over the quarry line when the quarry's locomotive was unavailable and on one particular occasion 3F 0-6-0 No.43396 was noted at the quarry with wagons being loaded.

Rail traffic continued until at least April 1962, the quarry being closed by the end of 1963. Most of the track was lifted in 1964/65 and the Simplex locomotive disposed of in the same period, presumably for scrap. Today track can still be seen where it crossed

the old main road, now a lay by, and the stone limekilns still remain although all the other quarry buildings have been demolished. The quarry itself is now the location of the North Wales Police firearms training centre.

Notes

(1) *Industrial Locomotives of North Wales*, by V.J.Bradley. Industrial Railway Society, 1992. ISBN 0 901096 72 5.

(2) *Scenes from the Past 18: Railways along the Clwyd Valley* by W.G.Rear. Foxline.

Art in the Age of Steam

Exhibition at the Walker Art Gallery, Liverpool, until August 10th

A review by Emlyn Davies

It is rather sad that an exhibition dedicated to the way in which artists interpreted and related to railways and their impact on society should open with a video presentation, but Turner's iconic 'Rain, steam, speed' is apparently too delicate to travel. The video is very good, but I couldn't see the hare which is supposed to be running in front of the train.

Spanning the period from the earliest days of railways to the 1950s, the exhibition begins with a good selection pf early prints, drawings and watercolours, which show the trains, viaducts, cuttings, roundhouses etc. which were making such an impact on the landscape. Particularly outstanding are the watercolours and pen-and-ink drawings by John Cook Bourne.

Following on from these almost 'technical drawing' representations of railways the theme becomes more of railways and their impact upon people. William Power Frith's stunning large oil painting of Paddington Station of 1862, crammed with people, illustrates how all classes of society were brought together by travel, but entering the train however segregated them again. In this painting and many others of the period the locomotive was hardly important.

Honoré Daumier's "The third class carriage" offers a glimpse of what it must have been like for poorer travellers who suffered rather than enjoyed their journeys, while Augustus Egg's superb painting entitled "Travelling companions" shows two sisters in grey crinolines in a well upholstered if rather cramped private carriage. The two huge Delvaux paintings of naked girls in railway vehicles seem incongruous in this show.

The French impressionists are represented here by Manet, Monet and Camille Pissaro who revelled in portraying the clouds of steam and smoke to be seen on the railways. In Manet's "The Railway" of 1873, a woman and child are shown looking through railings into a cutting from which steam rises – the play of light on the vapour being more important than the train.

The section on railway advertising was made p of semi-abstract, almost cubist style illustrations with little or nothing from the post-war era when Cuneo did some superb posters for British Railways.

This exhibition is a co-operative effort between the Walker Art Gallery and an American art gallery so there is a large section of American art. The American paintings, often very large, and impressively painted, show the railway in the landscape and frequently dwarfed by it: there were times when it was difficult to find the trains at all.

One aspect of the exhibition which rather disappointed was that only one modern painter of railways was shown, with an excellent painting by Terence Cuneo of "The Great Marquess" in Tyseley shed. What about works by David Shepherd, B.J.Freeman, Philip D.Hawkins, Don Breckon and others?

Another omission to my mind was that there was no section on 'railway carriage art' – I remember almost every compartment of every coach having prints: the artist C.Hamilton Ellis comes to mind. He produced a series of paintings of trains called 'Travel in", twenty four in all, and the National Railway Museum has the originals. A bit stiff in style, and maybe not great art, but it was part of the train travel experience in the age of steam.

The final section is railway photography, with some superb photographs from America by O.Winston.Link who specialised in posed set pieces, sometimes lit by a hundred synchronised flash guns (see 'Holy Smoke: Hot Shot Eastbound ... West Virginia (1956)'. Continuing the American theme – among the photographs taken at the turn of the last century which caught my attention was a crowded country station, with one of the characters casually holding a rifle, and a photograph of two fairly large locomotives hauling a train over the most flimsy looking steel trestle bridge I have ever seen. Closer to home there was a broadside view of a Beyer Peacock 2-4-0 outside framed locomotive and 'coal car' of 1863 taken in their Manchester works. The selection of photographs is good, covering action and still shots here and abroad, both old and relatively modern.

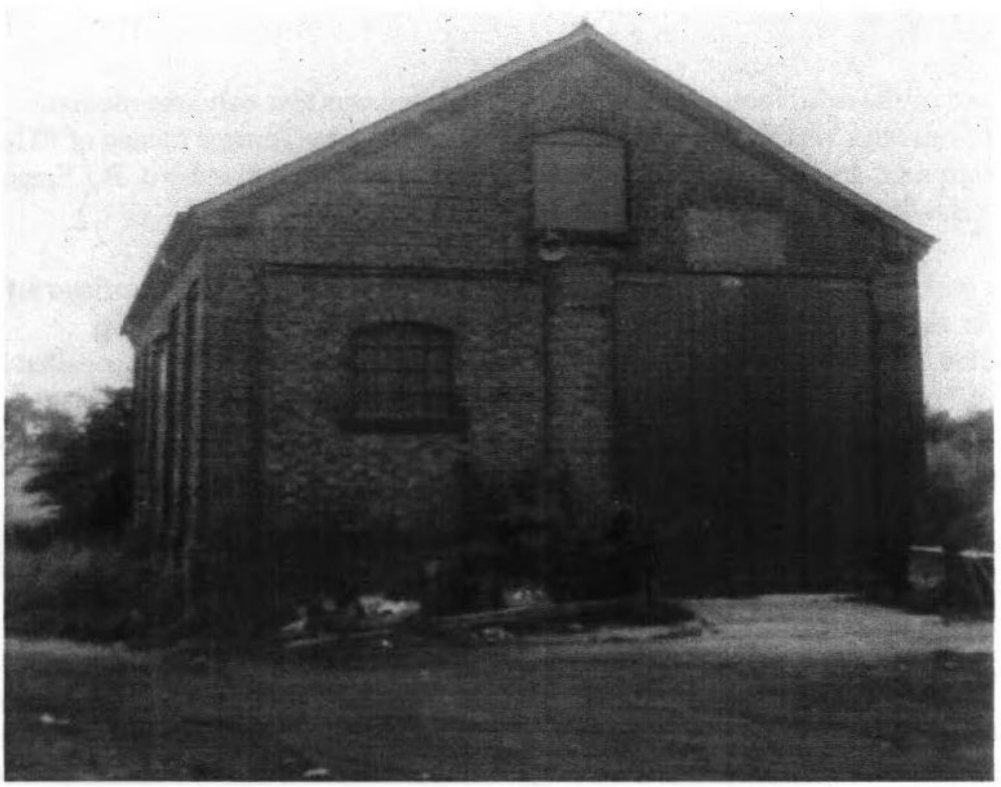
If you need to rest your legs there are benches in front of a television showing excerpts from the movies. I saw a very early, pre-1900 film showing a train entering a station in France, one showing the view in a locomotive cab when they picked up water from a trough (France again). There were also excerpts from "The Titfield Thunderbolt", "The railway children", "Night Mail", and I think I saw a piece from "Brief encounter".

I know that Julian Treuherz, the Curator of the exhibition, had some reservations about putting on an exhibition of railway art as not being in keeping with 'serious art', but I think the show, overall, is a resounding success; I agree with the critic who wrote "This is a show which would grace any gallery in London, Paris or New York".

If you can, go and see it, I think you will enjoy the experience. Entrance to the Museum is free, and there is an excellent and very weighty catalogue of the exhibition, but it does cost £25.00.

Mickle Trafford miscellany (1968-1980)

John Dixon's friend Arthur Willis, now in his eighties, is a railway enthusiast who farmed at Mickle Trafford. He took a number of photographs there with a simple camera in 1968/9. Although admittedly not all that good as documentary records, as we always say "any photo is far better than no photograph". So, 'thanks, Arthur'!



This is the Cheshire Lines-built goods shed in April 1968. You can see its position on the plan on page 4 of "BMRJ" no.6 (March 2006). The C.L.C. station had closed to all traffic in 1963, and the track into the shed had been lifted.

Signalman Frank Jenkins on the steps of the ex-Birkenhead Joint Railway signal cabin at Mickle Trafford, also in April 1968.
This box was a standard L.N.W.R. design, latterly with a second-hand L.&Y. 18-lever frame; both it and the Cheshire Lines-built box, were replaced by a single British Railways standard design cabin in 1969, as part of a big update of signalling when the link line between the Chester (General)-Helsby line and the Chester (Northgate)-Mouldsworth line was introduced. The new box is illustrated on the next page.

The new signal box was opened on 7 September 1969; this picture was taken by Stan Roberts on 11 May 1971.

On the left is 'Station House' – the former Cheshire Lines station masters house, photographed by the Editor in about 1980. Presumably there was also a station masters house associated with the joint line station?

Another of Arthur Willis' photos of Mickle Trafford C.L.C. station, showing the two railway cottages in the goods yard in April 1968. They lasted until demolition in 1970.

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Editor's page

Readers will have noted that there are descriptions of two railway accidents in this issue – this is purely by chance, and not design! I do realise that accidents and their reporting and investigation of causes is the basis of future accident prevention, and so formal accident reports are very important. I had already incorporated the Penmaenmawr event in the copy for this issue when the 1961 Baschurch collision piece was submitted by Tony Robinson: Baschurch is not a top tourist destination, and I had never been there until my youngest daughter moved to the nearby village of Myddle in 1996, when it turned out to be on our route from the A5 and B4397 to her new home. Although Baschurch station is long gone, the level crossing with automatic half-barriers still blocks traffic on the B4397. Tony's account is based on the recollections of him and his late father, who at that time was Shed Master at Mold Junction.

Recent books:
North Wales transport by Jim Roberts. Sutton, 1998. ISBN 0 7509 1722 9.
A pictorial guide to Southern wagons and vans by Terry Gough. Kestrel, 2008. ISBN 1 905505 04 3. £25. (A very well produced book, with lots of 4mm scale drawings).
Saltney Carriage and Wagon Works by Tony Wood. Great Western Study Group/ The Wider View, 2007. £12.75. ISBN 0 9535848 8 8.
Ness Colliery by Anthony Annakin-Smith, parts 1 & 2. In Wirral Champion Journal, vol.13 no.8 (Winter 2007) and vol.14 no.1 (Spring 2008). Wirral Champion Journal, South Hill Grove, Oxton, Birkenhead CH43 5SH.

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