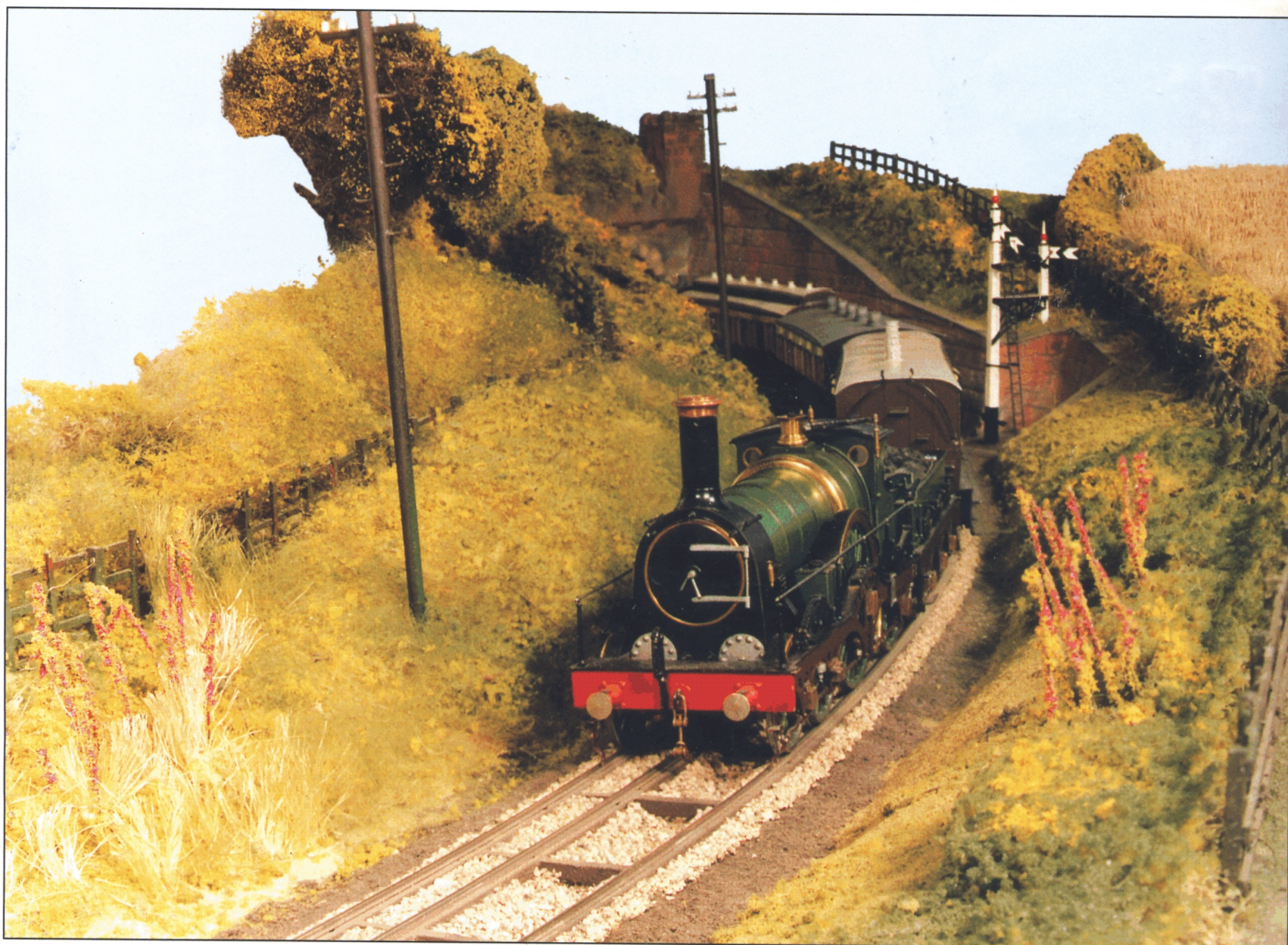


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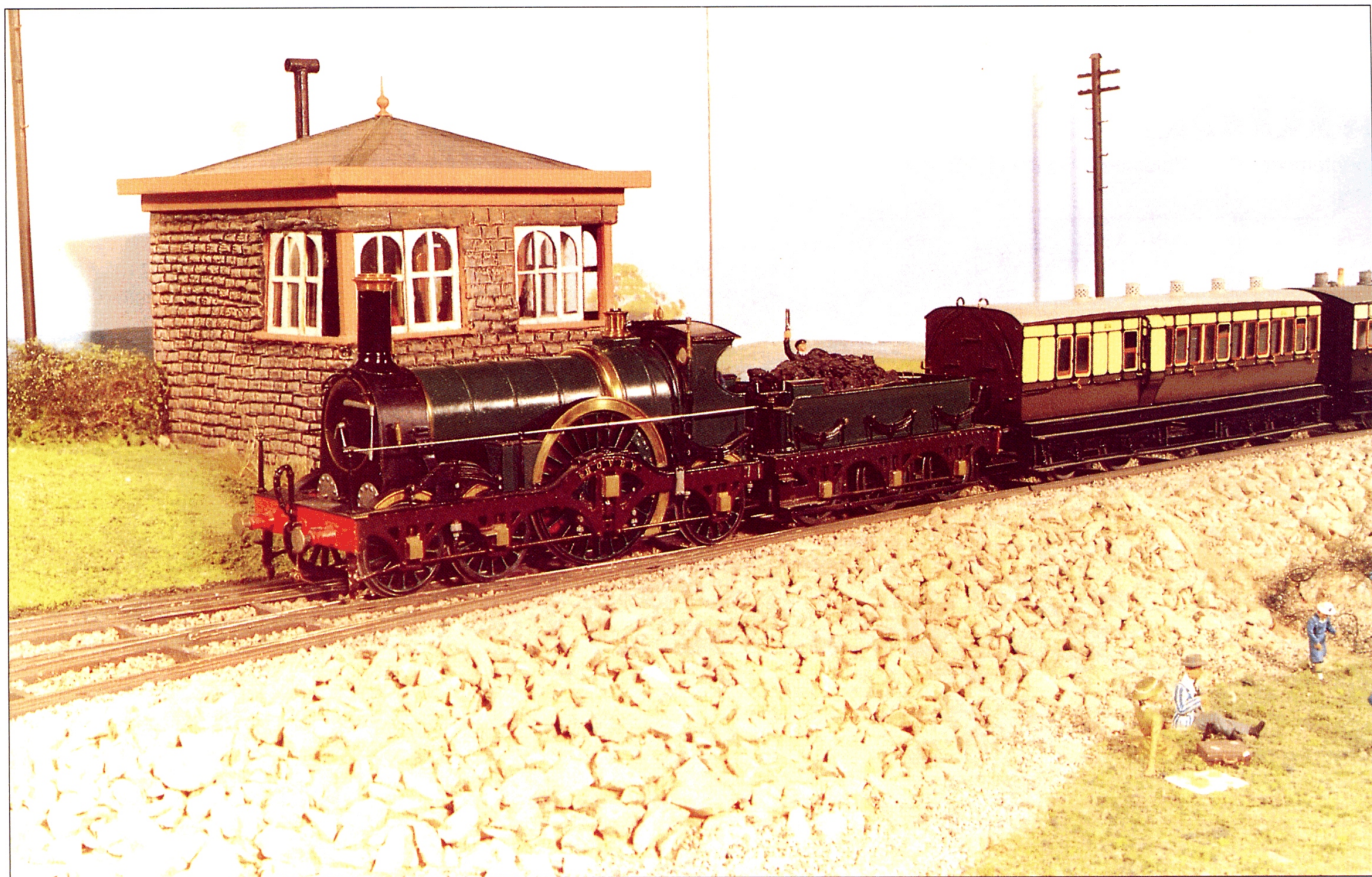


Coldrennick Road
Creating backscenes for Inverlochan
Building limestone hoppers



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Railway of the month

Bob Harper

COLDRENNICK ROAD

Mixed-gauge GWR in 7mm scale

Designed to be the junction station for Maristow — see RM December 1992 — Coldrennick Road allows the locomotives to stretch their legs a bit.

Although much scenic detailing still remains to be done (some day?) *Coldrennick Road* is now substantially complete and can be shown to the world together with a wider variety of trains compared to those seen at *Maristow*.

Layout plan

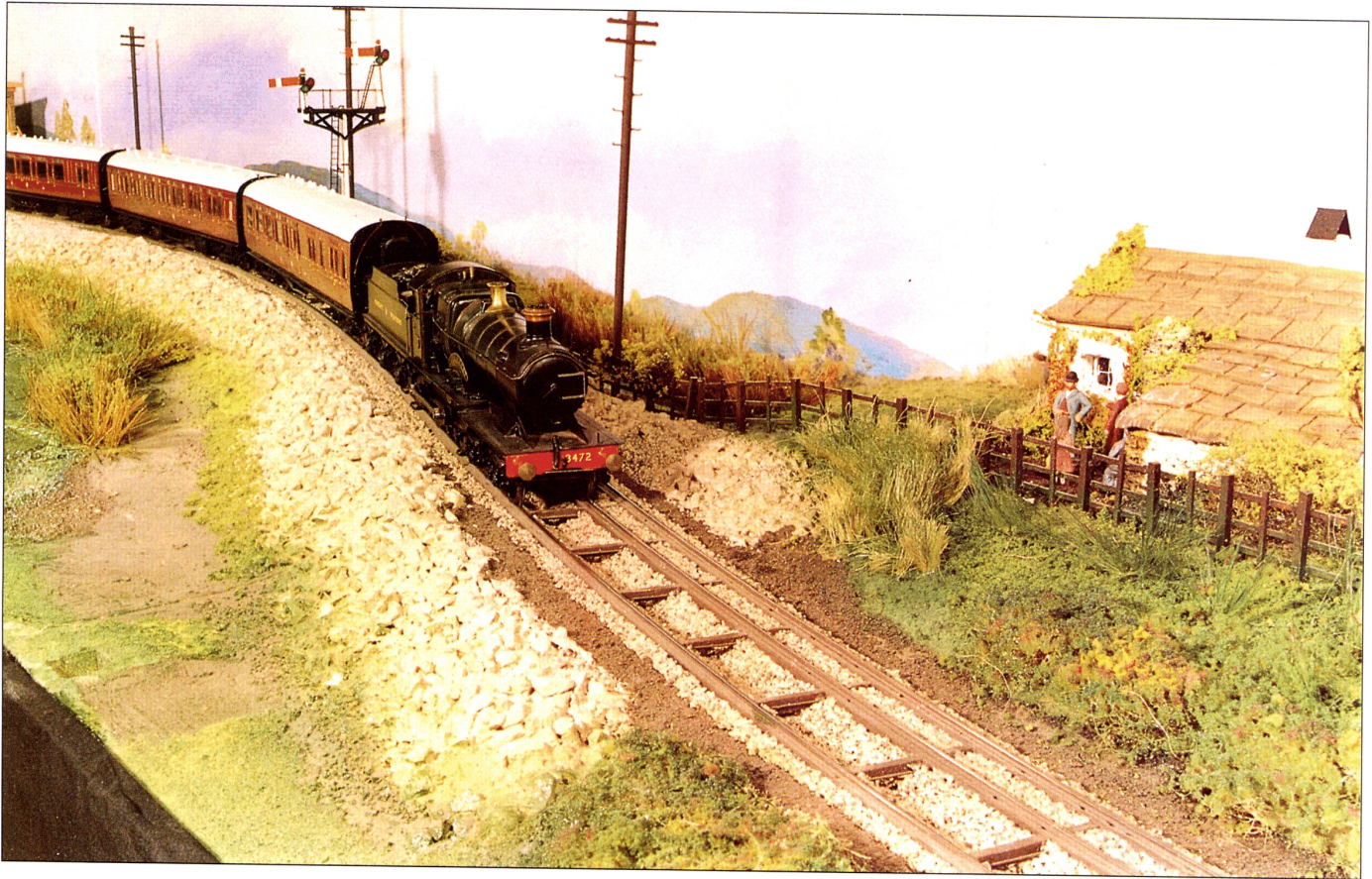
There is little to be said about the actual construction of the layout — as the plan will show, the scenic part is very simple, consisting of a single main line (laid with mixed gauge track) curving round an estuary, with a single line (laid with standard gauge track only) branching off at the junction just before

the station itself is reached. This almost "pointless" track layout is a deliberate contrast to the concentrated pointwork at *Maristow*; whereas the operation of *Maristow* shows the large variety of slow shunting moves needed at a terminal station, with generally small branch line trains, the simple "diorama" approach of *Coldrennick Road* shows main line trains (together with the branch services) running through a fairly lengthy scenic background, with no shunting and only the occasional station stop. When both layouts are appearing together viewers have a choice of two quite different styles of operation, as trains leave

the main line and two feet later miraculously burst out of a tunnel into *Maristow* — a short branch by any standard, but the two scenes are separated by a hidden blank section acting as an information board to viewers.

In fact the complicated trackwork on *Coldrennick Road* is hidden from view, in the storage sidings at the back of the layout where the heavy demands of a main line service are met by a fifteen-road yard, built on a crossed road design rather like Brunel's original main line stations at places such as Reading.

As many of the sidings are mixed gauge, the pointwork here is quite horrendous to



look at (and even worse to build!), but as this area is all constructed with rail soldered to copperclad sleepers, it was much easier than it would have been if prototypical appearance had also been important.

History

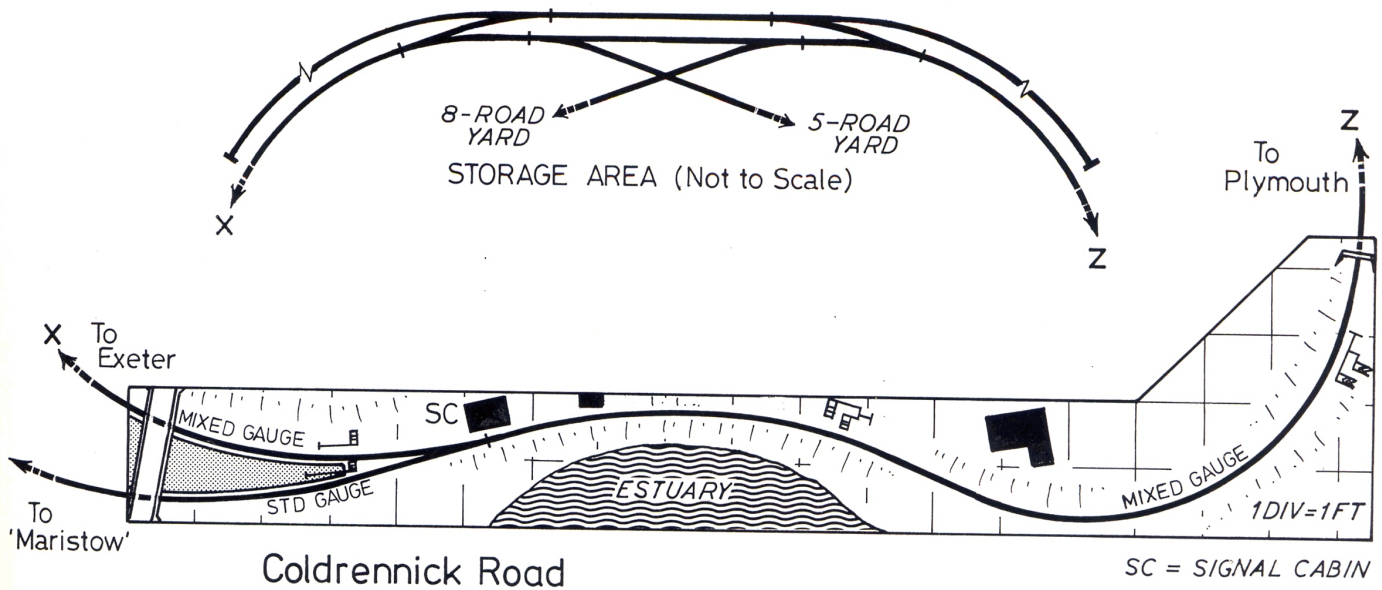
The photographs show the main difference between *Coldrennick Road* and *Maristow* — the main line is laid with a mixed gauge track, so that the broad gauge (7'0 $\frac{1}{4}$ ") and standard gauge (4'8 $\frac{1}{2}$ ") can run on the same line. The original Great Western, Bristol &

Exeter, South Devon and Cornwall Railways were all broad gauge only, but the Great Western was soon forced to admit standard gauge trains to the northern parts of the system, and the extra, inner, standard gauge rail was laid on more and more lines as the 19th century went by. (Curiously though, the West Cornwall Railway from Truro to Penzance was originally standard gauge only and was forced to lay an extra outer rail for broad gauge trains when through communication was finally established with the rest of the Great Western system.) Com-

plete narrowing of the system was inevitable from about 1860, but conversion took various forms — easiest were the mixed-gauge lines, where more and more standard gauge trains took over the traffic until finally

Above left: an up broad gauge express clatters over the junction behind Rover Class single 'Rover' herself. Signal box based on an old Cornwall Railway design.

Above: Bulldog Class 4-4-0 No. 3472 and train of crimson lake-liveried 'Toplight' stock comes off the junction and rounds the sea embankment.



the outer broad gauge rail was redundant and could be lifted. In other areas further westward, the inner standard gauge rail had never been fitted (the mixed gauge never got beyond Exeter, apart from West Cornwall and the Plymouth/Tavistock area where the LSWR ran over GWR track), so the lines had to be physically narrowed by slewing over one of the lines of rail when the final weekend came in 1892. Overnight all trains became standard gauge instead of broad gauge, compared to the gradual change on the mixed gauge lines near London.

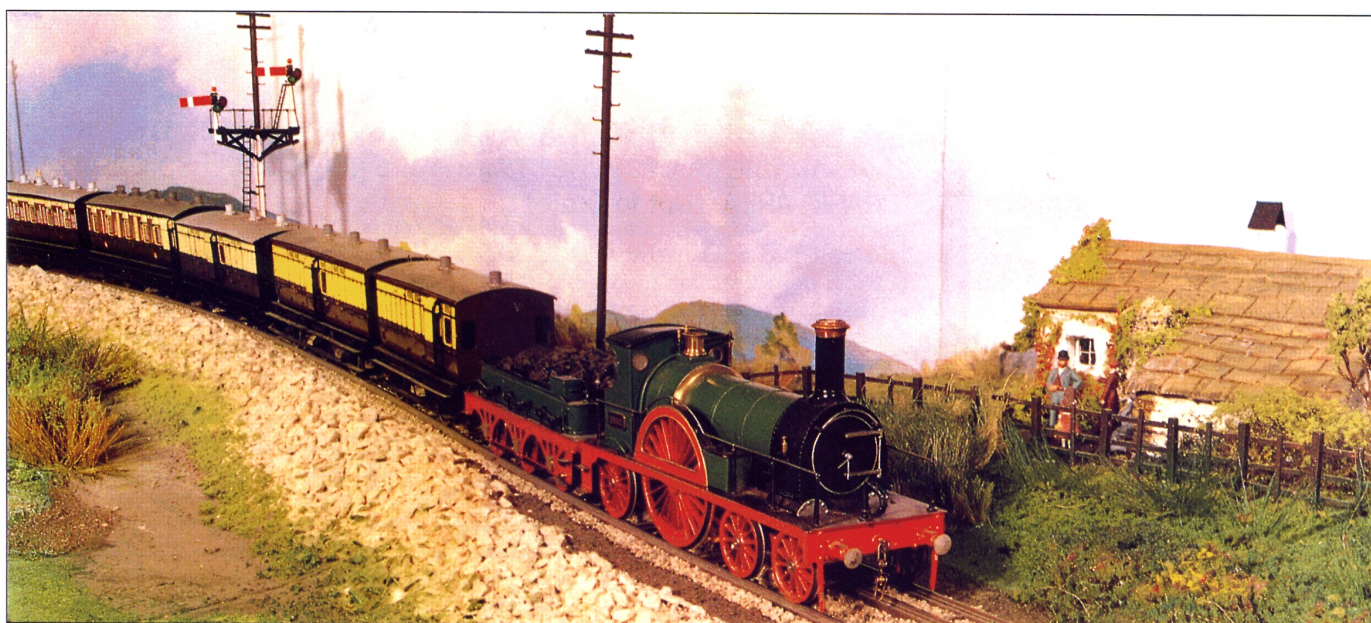
My scene is fairly ambiguous in location, being merely "somewhere" in the West Country between Exeter and Truro, hopefully combining aspects of different scenes to give an impression of a typical West Country main line, twisting sinuously round an estuary between tunnel mouths and cuttings. Despite being a main line it is still single track only, since most the line west of Exeter was indeed single until the end of the broad gauge and beyond. Since the mixed gauge didn't run west of Exeter, and the big broad gauge single locos didn't run west of Newton Abbot, my particular combination of trains, gauge and scenery is historically impossible, but it creates the steam I want to see and the trains that I want to run, so history can happily be overlooked. I'm also happy to be fairly ambiguous in the time period portrayed and allow the wide timespan of roughly 1890-1910, so showing the end of the broad gauge and the beginning of the great awakening of the GWR in the 20th Century. Each individual train is coherent in itself in terms of loco, stock and livery, and only one train can be seen at any one time, so the only obvious anachronism is the broad gauge outer rail under a train of 1900s rolling stock. However I like both the broad gauge and the Edwardian era and want to see all my stock running, so I'm quite happy to compromise in this way.



Construction

Technically there is not very much to describe in the construction methods used, and details can be found elsewhere anyway. Baseboards are predominantly plywood boxes with integral backscenes and integral

supporting legs which fold up underneath inside the box. As the centre scenic board has the track bed on a raised embankment above sea level, the problem here was to get the deck level of the baseboard as low as possible whilst still containing the folded-





up legs and two large signal motor cavities. In this board much of the diagonal bracing is actually on the top of the deck, beneath the track bed. Once the track bed was shaped round the layout, the timber baulks, cut to correct size by the local wood shop, were glued down in scale 8ft lengths, so as to support the rails at their correct spacing (49.2mm for the Scaleseven broad gauge and 32mm for the finescale standard gauge). The tops of all three baulks were then planed to a smooth "top", either horizontal or superelevated on the sharper curves, then the Broad Gauge Society nickel silver bridge rail glued down with Super Glue Gel. Electrical wire droppers go down to the wiring loom below the deck, which is fed from the main control board in the yard. Cosmetic cross transoms and tie rods were glued in next and then after painting the whole lot was ballasted, with the typical central cess easily seen in the photos.

Pointwork

The single turnout at the junction only involves one moving blade, with check rails being used to pull the wheels through the turnout when the route is set for the mainline, with the opposite wheels riding through with their flanges running on a raised ramp

rather than running on their treads. This design of turnout was used when a standard gauge line diverged from a mixed gauge line and prevented a broad gauge train being inadvertently diverted down standard gauge track!

Signalling

The signalling is rather more complicated, needing seven arms for the one point blade! Scratchbuilt using various components from Colin Waite and Derek Mundy, I have managed to include a co-acting arm below the main arm on the tall main line platform starter, and splitting distant signals some way in advance of the main junction home signals. Note that at this period, and well into the 20th Century, distant signals were painted red, and not yellow. I like signalling, and am trying to include most of the special types of arm at various places on different layouts; this layout gave me the opportunity for a realistic use of distant signals, as the length of plain track available between distants and homes is quite considerable (although still far too small) and the curve of the track and the cutting makes it impossible to see both homes and distants at the same time. Unlike *Maristow*, where the points and signals are operated from an interlocked

mechanical lever frame, on *Coldrennick Road* all operation is electrical because of the distances involved, with routes set at the flick of a switch from the operator's position in the yard. The four possible routes (up/down main, up/down branch) involve up to three movements (points, home signal, distant signal) and the correct sequential operation of these, with a four-second delay between each movement, is masterminded by a cunning electronic box designed and built by the line's resident electronic engineer, Peter Boyce, who also builds the controllers for my layouts. The sophistication of

Above left: This view of a permanent way train also shows the scenic part of the layout which simulates the sinuous West Country lines — not a straight section of track to be seen.

Left: a down broad gauge express of broad and convertible stock headed by ex-Bristol & Exeter 4-2-2 No. 2002.

Above: the down main starting signal is fitted with a co-acting arm lower down the post to aid sighting below the bridge.

the box is demonstrated by its ability to switch three points and signals off in the reverse order to that in which they come on, still with four-second delays. A typical sequence would be:

1. Route switched on;
2. Points set;
3. Four-second delay;
4. Home signal clears;
5. Four-second delay;
6. Distant signal clears;
7. Train passes;
8. Route switched off;
9. Distant signal to danger;
10. Four-second delay;
11. Home signal to danger;
12. Four-second delay;
13. Points reset;
14. Ready for next move.

All this is done by switching one switch on and then off — readers might like to think of the electronic problems involved! As on *Maristow*, signals energise the section of the track behind them, so that trains can't pass signals set at danger. Diodes allow running in the opposite direction on the line.

Scenery

With all the track and signalling in place

(though the signals themselves are detachable), the scenery is added using fairly traditional methods — the ground levels built up from polystyrene blocks which are carved to shape and covered with Carlite Bonding Plaster to give an immensely strong base for further detailing. Dyed lint, scenic flock, scribed plasterwork for bridges, cutting walls and tunnel portal, horsehair and scenic mats for thickets and trees have all been used, but the one ingredient that cannot be described is the artistic flair of that master scenic builder, Bob Deakin, who again has come to the rescue of a rude mechanical. Bob has created the whole scene from grass level upwards, involving the beautiful watercolour backscene, the rocky outcrop behind the platforms, the cottage, cutting walls, and impressive castellated tunnel portal.

I do however claim the credit for the cornfield, since this needed endless patience but little skill. Using small stooks of

natural fibre cut off from a broomhead and stuck down using wood glue, it took me four months and six brooms before I had finished the whole area! (And then a member of a Young Farmers Club asked me what crop it was meant to be!). So much for the tentative suggestion "how about a cornfield in that corner so that just the tops of the trains can be seen passing by in the cutting behind" — I'll keep my mouth shut next time. All the scenic methods really deserve a complete article by Bob Deakin himself, but he is far too unassuming to blow his own trumpet so I have to try and do it for him, very inadequately.

Operation

Coldrennick Road is designed to be a diorama so that viewers can just watch the trains go by through the open country. As such a sequence of roughly fifteen trains is run, the order of which depends on whether *Coldrennick Road* is running on its own or as part of the complete layout with *Maristow* as well. In the complete set up, the yard operator feeds branch trains to and from *Maristow* as required by that section's operator, and then runs main line trains round the complete circuit in sequence in the intervening periods while shunting is taking place at *Maristow*. When running on its own, all trains become main line trains, and a more carefully planned sequence is possible, balancing up and down, fast and slow, passenger and freight, broad gauge and standard gauge trains. Trains now take an appreciable amount of time when running from *Maristow*, through both layouts and all the way round to the yard, so good co-ordination and improved communications between operators are needed to ensure a smooth supply of trains on both layouts without lengthy waits. We haven't mastered this yet, but so far we have only been to a few shows with the whole system.

Rolling stock

This is mostly standard gauge at the moment, as I haven't yet had time to build more than a few broad gauge wagons. Fortunately the Chairman of the Broad Gauge Society, Alan Garner, has come to the rescue and very generously loaned most of his broad gauge locos and stock to bridge the gap so that viewers can see the third rail being used. New stock is added as I build it, but I find that each item takes longer and longer now as I put more and more detail in. Apart from the branch trains of four wheel, six wheel and bogie clerestory coaches plus various wagons and specialist vans which have been seen on *Maristow*, extra main line trains not seen before include a lengthy coal train, a ballast train, a rake of Toplight coaches in the crimson lake livery of 1912 including a slip coach, together with a variety of broad gauge vans and coaches with both broad gauge and standard gauge bodies. In the



final years of the broad gauge, many standard gauge coach bodies were fitted with broad gauge underframes, these "convertibles" filling a widening hole as broad gauge vehicles of the 1850s and 1860s fell apart and were not replaced. After gauge conversion in 1892, the convertibles were re-equipped with standard gauge running gear and so continued their useful lives.

Motive power

Standard Gauge

In pre-1906 livery, with elaborate lining and Indian Red frames, beautifully painted by Alan Brackenborough -

517 Class 0-4-2T No. 551

2021 Class 0-6-0ST No. 2048

Dean Goods 0-6-0 No. 2357

Dean Single 4-2-2 No. 3046 *Lord of the Isles*

"Duke" Class 4-4-0 No. 3289 *Trefusis* (on loan to the line from the builder, David Baker whilst I build a replacement).

In post-1906 livery with black frames -

27xx Class 0-6-0PT No. 2761

"Metro" Class 2-4-0T No. 1450

Dean Goods 0-6-0 No. 2449

45xx Class 2-6-2T No. 4540

43xx Class 2-6-0 No. 4358

"Bulldog" Class 4-4-0 *Columbia*

In crimson lake livery of 1912 -

Steam railmotor No. 78.

Broad Gauge

Owned by Alan Garner and on loan to the line —

"Rover" Class 4-2-2 8ft single *Rover*. These locos were not strictly 4-2-2s like the Dean singles as they had a rigid chassis with no front bogie. Built as "renewals" of the 1850s-vintage Gooch 8ft singles, they lasted until the end of the broad gauge.

4-2-2 single No. 2002. These locos were rebuilt from the Bristol & Exeter Railway 4-2-4Ts after one of them rolled over at Long Ashton at frightening speed.

0-6-0ST No. 2170 *Taurus*. An ex-South Devon Railway loco, she was converted to standard gauge in 1894 and was not finally scrapped until 1905.

Lent by Bill Salter — 2-4-2T "Piglet"!

0-4-0 narrow gauge inspection trolley "Whim", with vertical boiler and vertical cylinders like the Cornish mining engines or "whims". A whimsical invention for Mr. Brunel's use, running on roughly 16mm gauge (guess where!). Battery powered, built by Pete Boyce.

Future plans

Exhibition invitations have now started coming in for *Coldrennick Road* on its own, so the blank area without scenery on the left of the layout is rather exposed in this situation. Thoughts have turned to an extra scenic section along this side, probably including a high embankment and viaduct of some type. I've always wanted a Brunel timber viaduct, but the curvature here is probably too tight for one of these to be convincing, and a masonry viaduct is more likely.



Coldrennick Road can be seen at the following exhibitions: Rail '94 in s'Hertogenbosch, Holland, on 23-25 September; Folkestone on 1 & 2 October, Hull on 12 & 13 November, Swindon on 26 & 27 November, and York on 15-18 April, 1995.

Above: a broad gauge local goods hauled by 0-6-0ST No. 2170 'Taurus'.

Below: Up empty newspaper train headed by 'Duke' Class 4-4-0 No. 3289 'Trefusis'.

Foot of page: '517' Class 0-4-2T No. 551 leaves the station with a local train of 4-wheel coaches.

Left: Up standard gauge goods headed by Dean Goods No. 2357 leaves the tunnel and rounds the curves towards the junction.

Photographs by the Peco Studio.

