

At left: The layout of Gatton station is very realistic, but still simple to construct. Note the tunnel mouth brickwork effect and the painted background to give a depth effect on the wall.

At right: Locomotive E 3001 approaching a bridge after passing through the local station. Note the simple structure that supports the layout, the model people really add realism to this type of layout.

Below right: Locomotive 7032 "Denbigh Castle" with passenger stock passing through Oakham signal box with a 30027 M7 tank locomotive on the quarry branch line.

BUILDING A REALISTIC OO GAUGE LAYOUT ON A TIGHT BUDGET by D. S. Thomas

THE LAYOUT described here was built as cheaply as possible, a good thing these days when pocket money seems to vanish overnight! The final result looks most realistic and always impresses visitors.

It doesn't take long for the proud owner of a new train set to realise that the carpet is no place for a layout, what with fluff getting into the works and requests to dismantle the track to tidy the room! Not to mention the dangers of treading on the rolling-stock. So the author decided to make a layout that could remain in place. If you are lucky enough to have a spare room, or space in your bedroom, then the location is fixed. Our layout occupies a spare bedroom and we decided that the tracks should be run around the room with space left in the centre for the controller and privileged visitors.

The track must be laid on a baseboard, and for this we made benches along each of the walls. The bench tops are preferably made from insulation board with wooden battens for strengthening purposes, as we can push track pins etc. easily into this material. We pressed into use some chipboard which originally formed darkroom benches, and an old double wardrobe unscrewed to form two halves which, when placed on their sides, formed ready-made benches. The width of the benches should not be more than about 3 feet, to allow access to any part of the layout. The height of the benches is about 2 feet, which allows the controller to sit in comfort and supervise operations.

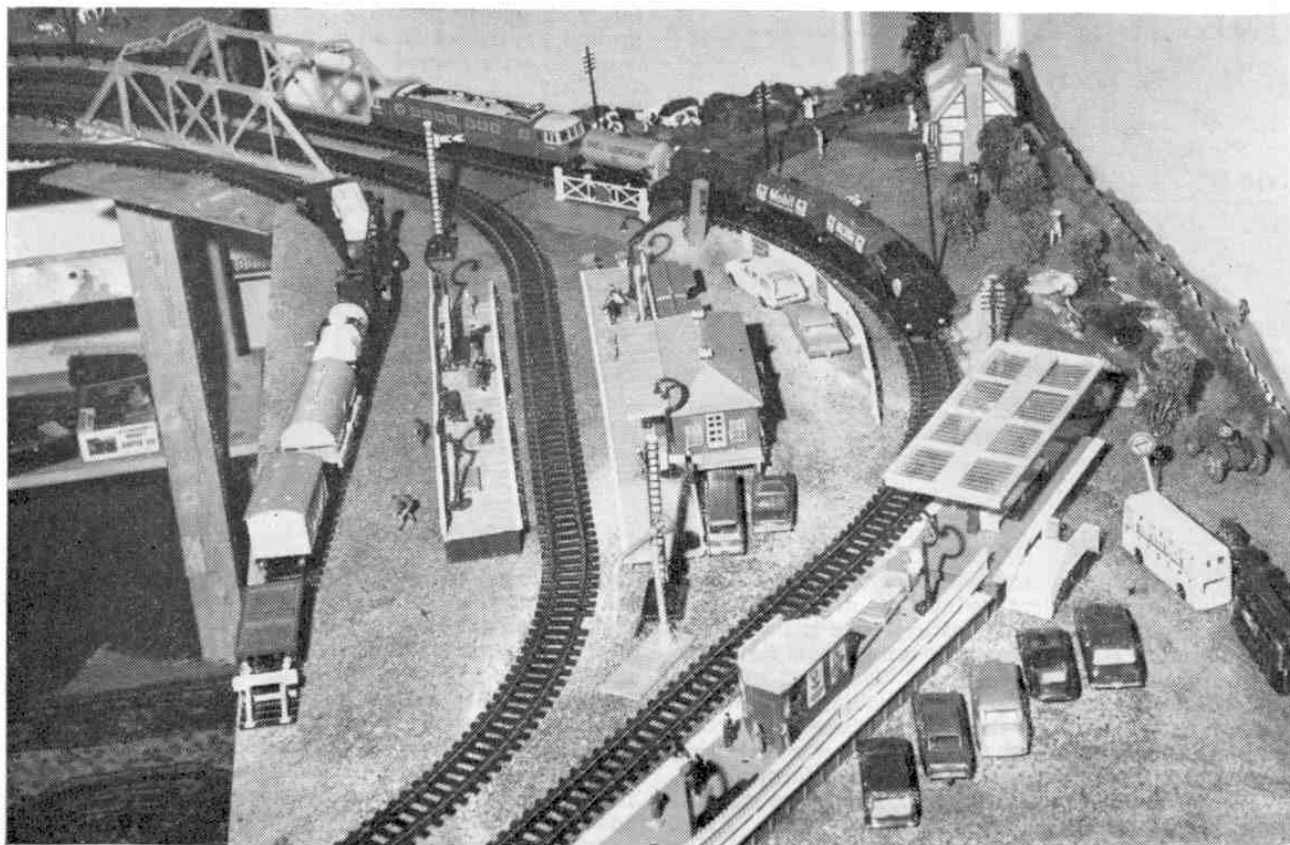
We then planned the track routes, and from this moment it became more and more interesting. Planning, modelling and making scenery can be even more interesting than operating trains. See the last seven months of "Trackside Competition" in Meccano Magazine for some simple stations, signal boxes, loco-sheds etc. Back numbers available price 2/6d. each plus 4d. post from the Editorial Office. Let us have a branch

line to a quarry, for example, and a tunnel or two and cuttings. It adds interest if the train disappears from view for a short time during its journey. It is best to plan ahead at this stage, even if we will have to wait for some time for more track, points, etc., so that you won't have to remove a mountain or two to make room for later additions.

We laid the track on the baseboard and altered it here and there until we thought we had the basis of an interesting layout. One bench was occupied by engine sheds, turntable and sidings, one was allocated for a tunnel and station, the third for the quarry branch line and the fourth for another station, a farm and surrounding scenery. We also decided to have mountains along the back of the second and third benches.

The track itself makes two independent loops, with a crossover near the engine sheds. The gap between the benches near the door was bridged over a section of 'river'. This means that access to the room is by crawling under the 'river' or stepping carefully over the bridge! After pencilling-in the positions of the tracks, they were removed and the scenery construction started.

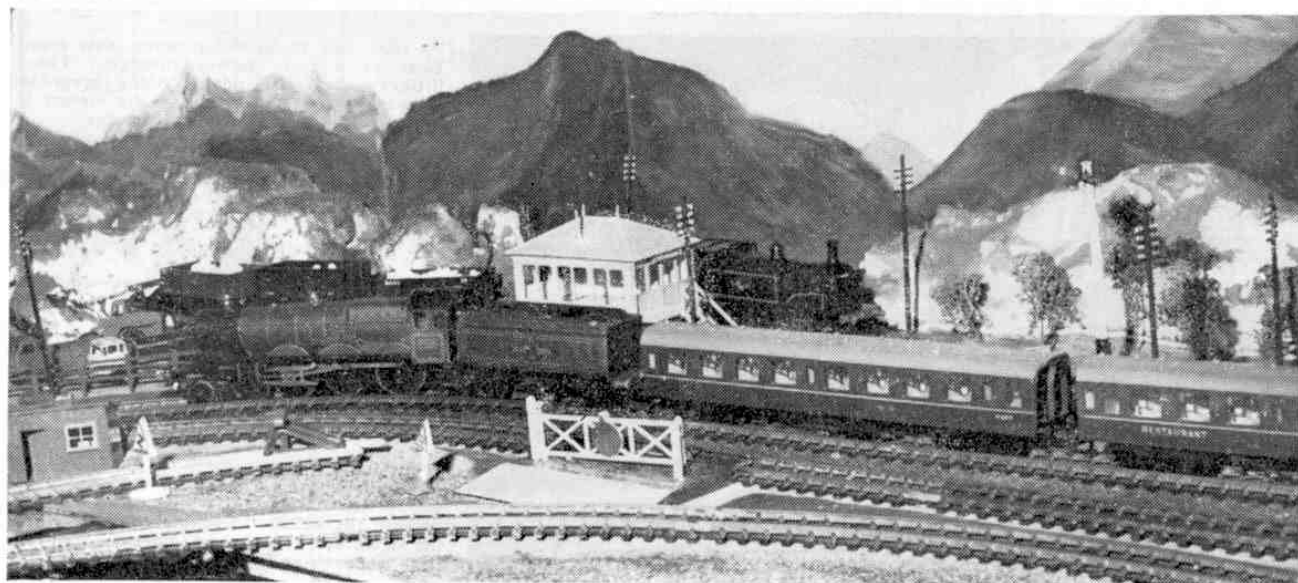
The mountains and cuttings were made from blocks of expanded polystyrene, which is used for packaging many things these days. Egg-boxes are a good substitute. Pieces were broken-off the blocks, leaving a mountainous contour and the blocks then glued to the baseboard, using UHU glue, or similar. When the glue had set, the mountains and cuttings were coated with a runny mixture of Polyfilla, using a palette knife to produce the final contours. The tunnel was made from thin card bent into a half-cylinder between two hardboard tunnel portals, and supported by dowel pins glued and nailed between the portals. The Polyfilla mixture was then applied over the card and allowed to dry.

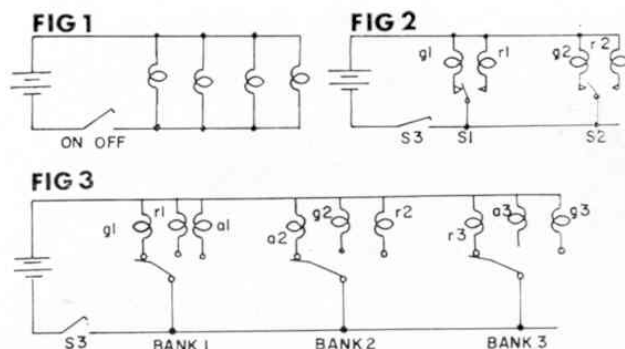


We then started painting the scenery. A flat-finish paint such as Poster Paint or plastic emulsion paint is suitable. Greens, browns and greys are required, but it is cheaper to buy yellow and blue to make green, and white and black to make grey, as we get six colours that way. The scenery is improved if we use the scatter powders that are available in landscape tints, or we can use sawdust and paint over it. We tried two ways of using the scatter powders—one by using the paint liberally and scattering the powder on to the wet paint, and the other by brushing glue over the dried paint and scattering the powders on the glue. We painted the

track route and engine shed area in very dark grey scattered with black powder. Roads were made a lighter grey.

To improve the bareness of the landscape, we made trees and bushes from lichen, stuck to twigs found in the garden. The trees were "planted" in Plasticine; another method would be to drill holes in the baseboard and glue the twigs in place, although this makes re-arrangement of the landscape rather more difficult. Hedges were made from foam rubber strips, tearing the tops here and there for a more natural appearance, and stuck to the baseboard, then painted.





We then laid the track, checking that we had adequate clearance between the two tracks at bends, by running two coaches or locos which have an overhang. When satisfied, the track was pinned at intervals to the baseboard.

We are now ready to add stations, bridges, signal boxes etc. It is much cheaper to assemble these from kits such as Airfix, or to make them from card. The Airfix kits are excellent value for money and the finished result looks most realistic if care is taken over the painting. Humbrol paints were used for these models, using the matt colours. We found that the Airfix kit of telegraph poles, although one of the simplest, added greatly to the realism of the layout.

The next stage is to add life to the scene by having passengers on the platform, and animals, farmers, etc. on the surrounding countryside. There are various proprietary figures on the market, but again Airfix provide probably the cheapest method of populating our layout. These must be painted, but Merit make very life-like figures which are already painted. We used the Triang-Hornby figures for engine crews and sitting passengers in the coaches. An assortment of Matchbox cars, tractors etc. parked near the stations and farms add to the life of the scene.

Although the layout now looks very realistic, a vast improvement is made if we provide a background. We actually painted a landscape scene on the walls. This method has one advantage at least—if you feel like a change of scenery, you just paint over the old one! If you will be photographing your layout, don't forget to paint the sky area sufficiently high to exceed the camera field of view. If you don't feel artistic or con-

fident enough to paint the walls, you can obtain background papers which have various landscapes, village and industrial scenes. Biltzezi and Peco are two suppliers.

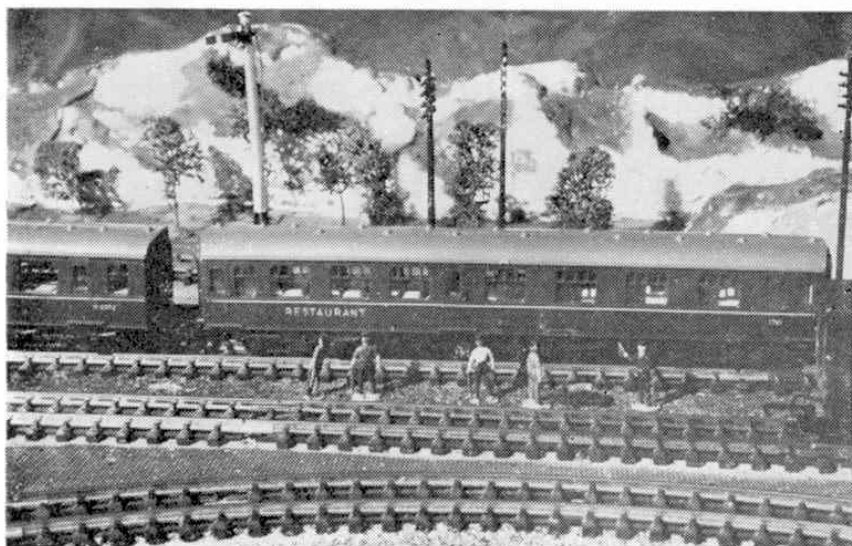
We now have a very lifelike layout, but we can add refinements that will not only lift it out of the ordinary, but will increase our enjoyment in operating the trains. These refinements are lights for the buildings, floodlights for the outside of some of the buildings and colour light signals. Now these are expensive to buy, but if we make them ourselves, it can be economical.

Firstly the lights. For those we used 'grain of wheat' bulbs, so-called because of their shape and small size. These bulbs, in green, amber, red and clear, cost about a shilling each and do not require bulbholders, as they have their leadout wires extended to about 4 inches. When the bulb has been placed in position in the booking-hall for example, the lead-out wires are secured in position with a couple of spots of glue. The bulbs work from 12 volts, but it is better to run them from 9 or 10 volts, as this will prolong their lives. This means a separate voltage supply from that supplying the track. We use two 4.5 volt batteries connected in series, that is + of one battery to - of the other. You could also use a bell transformer, giving 8 or 10 volts output. Don't forget to take care when using mains electricity, *it can kill*. The bulbs are connected in parallel across the battery or transformer output via an on-off switch, as shown in figure 1.

Up to 10 bulbs can be connected in this manner. The wires are run underneath the baseboard, drilling holes for them to come up inside the buildings. To enable us to start night operations, we should add colour light signals. We can either have a red-green system, or red-amber-green. For the red-green system, we need a single-pole double-throw toggle switch for each signal. These switches are obtainable from radio spares shops. Figure 2 shows how these are connected to operate two signals, g 1 and r 1 being the green and red lamps for the first signal and g 2 and r 2 for the second, s 1 and s 2 being the toggle switches and s 3 the on-off switch.

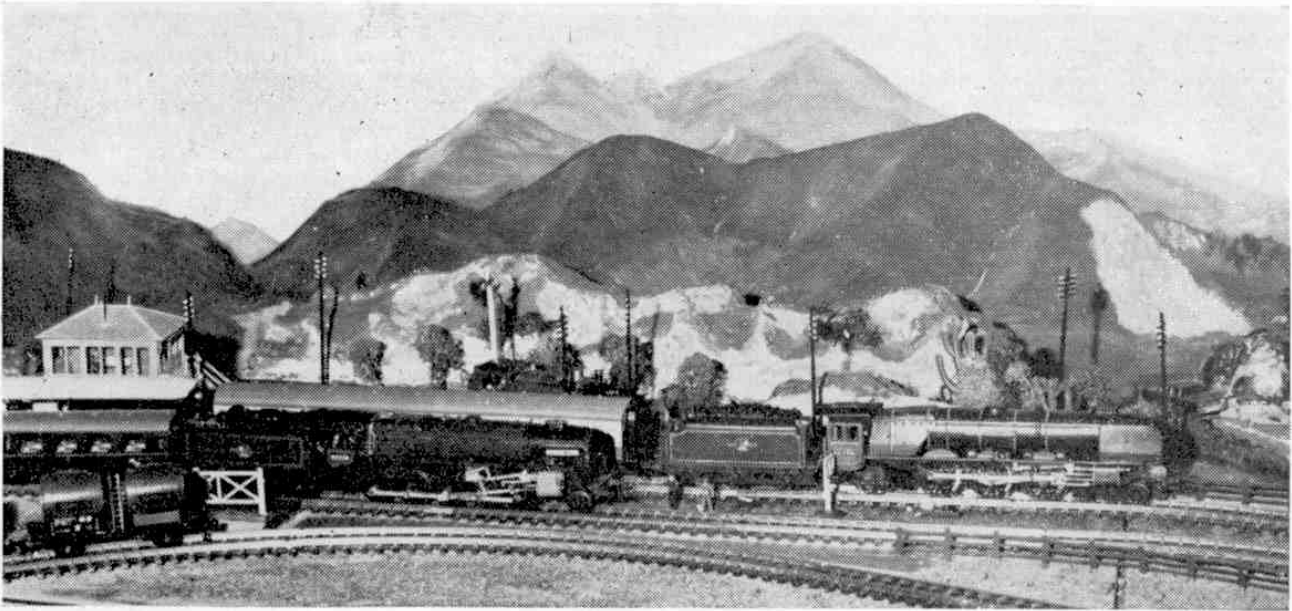
For a red-amber-green system, we must use a wafer rotary switch, again obtainable from radio spare shops. For three signals we shall need a 3 bank 3-position switch. Figure 3 shows the connections.

With this circuit, signals 1, 2 and 3 will show green, amber and red respectively with the wafer switch in



At left: The track maintenance crew stand clear as a train passes through. These little touches with people doing everyday railway jobs on the layout, really elevate it from 'toy' to 'model' status.

At right, above: The 46225 "Duchess of Gloucester" with the 11 a.m. down express passing the 92220 "Evening Star". Note the telegraph poles and lineside fixtures such as fences and gates.



position 1 as shown. As the train passes signal 1, we turn the switch one position and now signal 2 will be green; 3 and 1 being amber and red respectively. Similarly another operation of the switch makes signals 3, 1, 2, turn green, amber and red respectively. Thus

a continuous clearway for the train can be signalled or the train may be stopped at any signal.

The final touch for realistic night operations is to have a blue bulb in the room light and we now have a layout that we can be proud of.

