Automatic Control for Hornby-Dublo

By Sqn. Ldr. T. W. Newberry, R.A.F.

THE details on this and the following page describe a means for the control of Hornby-Dublo trains at Points or Crossings so that, should two trains approach on converging tracks, the one to arrive first continues, while the other is held until the track is clear, and then it is allowed to proceed. Points operate automatically to allow safe passage to the moving train and signals give the correct indications.

This scheme requires modified or non-standard equipment, including a special rail, a suitable relay and a small dummy collecting shoe. The special rail length has two conductor rails as close together between the running rails as is practicable. One is a normal centre rail and the other is designed to take current from this when they are bridged by the engine collecting shoe or by one of the dummy shoes. From this rail the current is taken to a suitable terminal and thence to the relay.

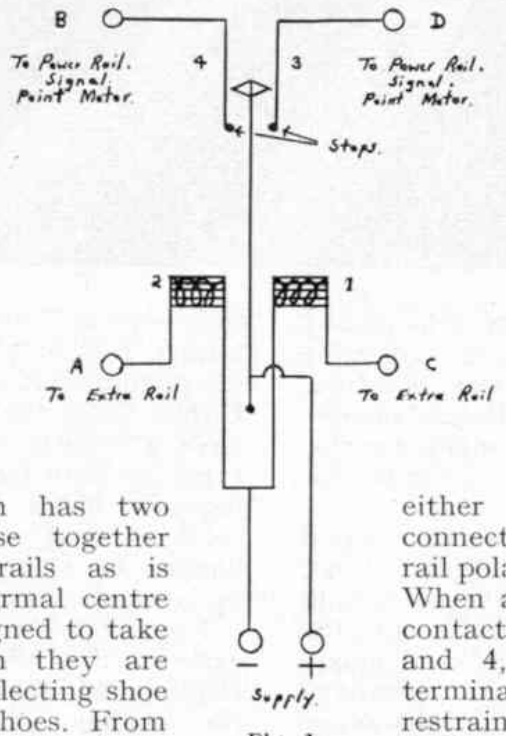


Fig. 1.

One of these special rail lengths is fitted in each approach to the junction or crossing, with one standard rail length between. This standard rail is the safety precaution to guard against over-running of fast traffic; it gives the train more time to come to rest. The special rail, standard rail and Points or Crossing are completely isolated from the rest of the track as shown by the word *Isolation* in Fig. 2, but not from each other.

The relay arrangement is sketched diagrammatically in Fig. 1. Its purpose is to use the current collected from the special rail when the two conductors are bridged by the shoe to effect the switching off of power from the isolated portion of the other line leading to the Points or Crossing, and to operate Points and Signals. It consists of two solenoids, marked 1 and 2 respectively, which have a common centre supply of the same polarity as the running rails, led to the terminal indicated in Fig. 1 by a minus sign. The outer ends of the solenoid connections are led to terminals A and C.

These solenoids are used to deflect a central armature towards either one, and this armature is connected to the terminal of centre rail polarity indicated by a plus sign. When at rest, the armature makes contact with two spring blades 3 and 4, which are connected to terminals B and D. They are restrained from moving inwards, farther than is necessary for good contact with the armature, by stops.

Normally, with power connected to the terminals marked *Supply* in Fig. 1, B and D will be "live" with centre rail polarity. Now, if terminal A is made "live", solenoid 2 will be energised and the armature will be

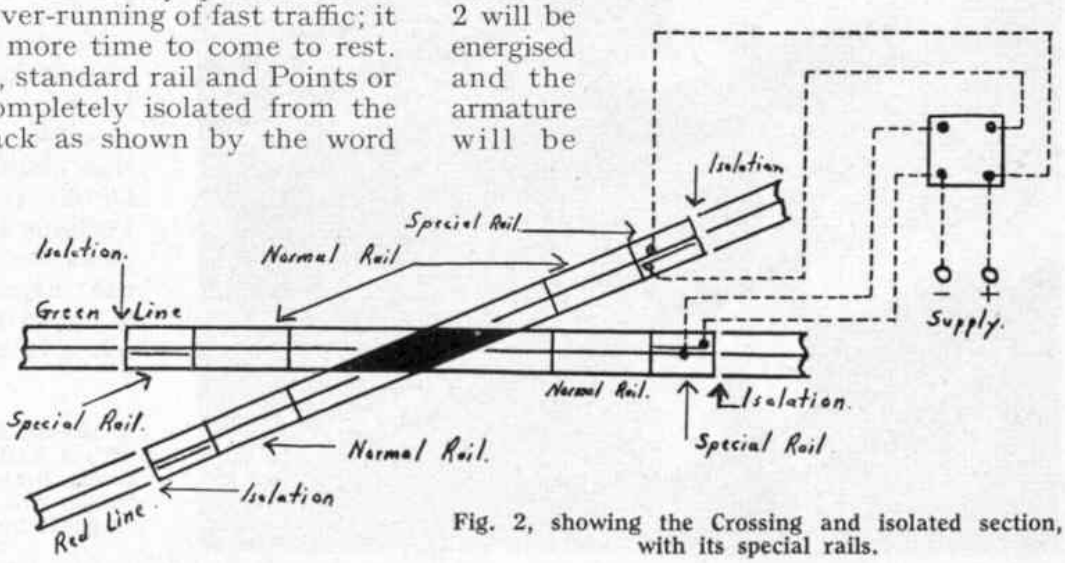
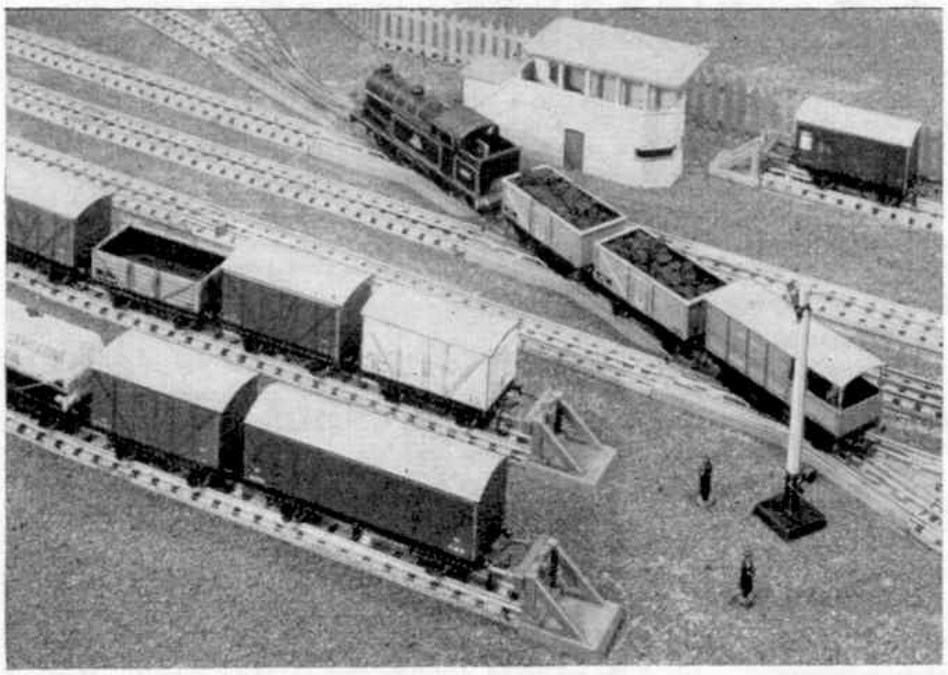


Fig. 2, showing the Crossing and isolated section, with its special rails.



A short coal train traverses a succession of Crossings to reach the sidings on the far side of the main line.

attracted towards it, moving spring blade 4 to the left. Blade 3 can only move as far as the stop, when contact with the armature will be broken. The result will be that terminal B will remain "live" and D will be "dead". Conversely, if the current is applied to terminal C, solenoid 1 will be energised, D will remain "live" and B will be "dead".

The dummy shoe referred to is used on long trains to ensure that the bridging of the double centre rails in the special length of rail continues after the engine has passed, when it is still necessary to keep the track clear. The shoe as shown in Fig. 3 is made of plastic or other insulating material in the form of a broad "hook", which can be clipped over the axle of one of the vehicles. The lower end carries a small metal plate, the sole object of which is to bridge the centre rails. Several of these shoes may be required in one train.

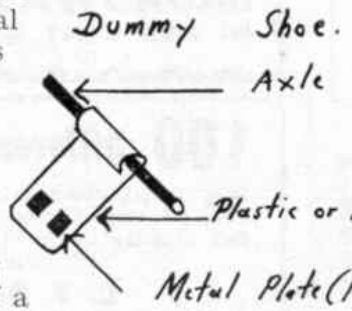


Fig. 3, showing the dummy shoe referred to in this article.

The track is wired as shown in Fig. 2, which shows the intersection at a Crossing of two routes that we can call Green Line and Red Line respectively. The rails adjacent to the Crossing are of standard type and next to these are the special sections with two centre rails in each length. From the beginning of the special rails on each side of the Crossing, the section is completely isolated from the rest of the track.

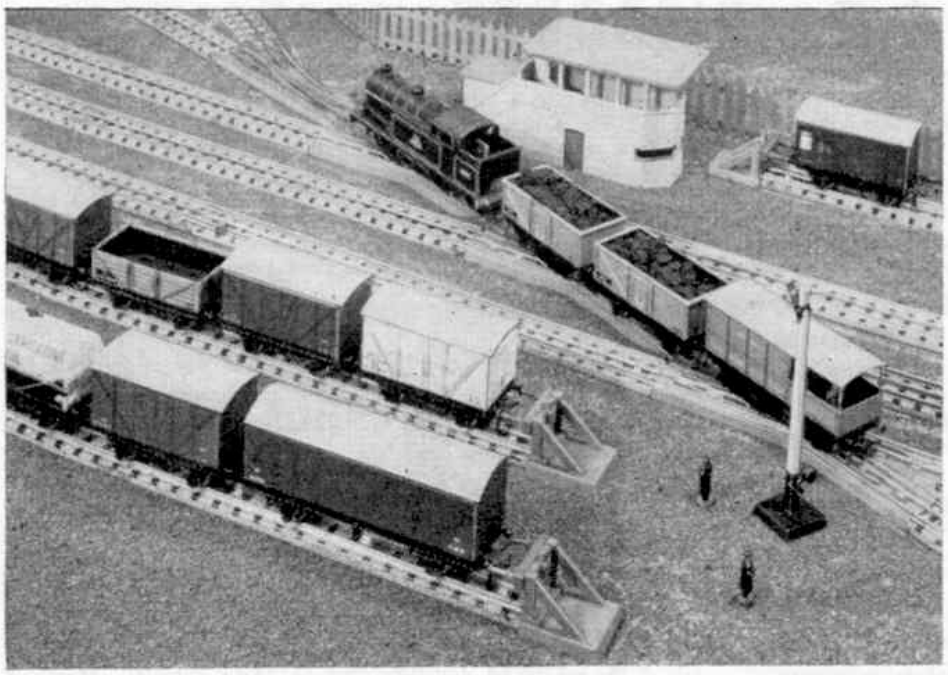
Terminals A and C of the relay are connected to the extra centre rail in each of the pair of special lengths leading to the Crossing in Green and Red lines respectively. Terminals B and D are connected to the remaining centre rail in each length respectively. The two special lengths in each route are connected to the relay in parallel.

A train approaching the Crossing, on the Green Line, from right to left, will arrive at the isolated special rail, which is fed from terminal B of the relay, and the engine collecting shoe will bridge the two centre rails and take its current from terminal B through the centre rail. It will also close the circuit to terminal A of the relay and, since terminal D will now be "dead", the Red Line route is open circuited and any train on it will be halted at some point after the beginning of the special length, the the actual over-run depending on momentum.

As the two special rails in each track are connected in parallel, the Crossing is protected from either direction. When the engine of the train on the Green Line route has passed the special rails, both tracks become "live" again and the train held on the Red Line will start. For this reason, enough dummy collecting shoes must be fitted to the train to ensure that the two centre rails in at least one of the special lengths in the line are bridged for the whole of the time that the moving train is obstructing the Crossing.

Points and Signal "motors" are connected to terminals B and D as appropriate.

So much for the idea. Its application could take many forms according to the use made of the relay. For two trains, one relay will protect any number of Points or Crossings.



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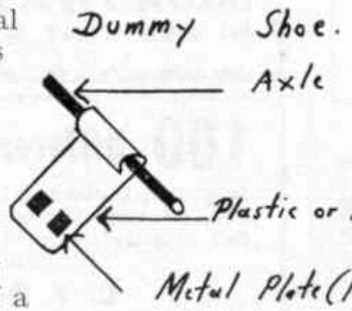

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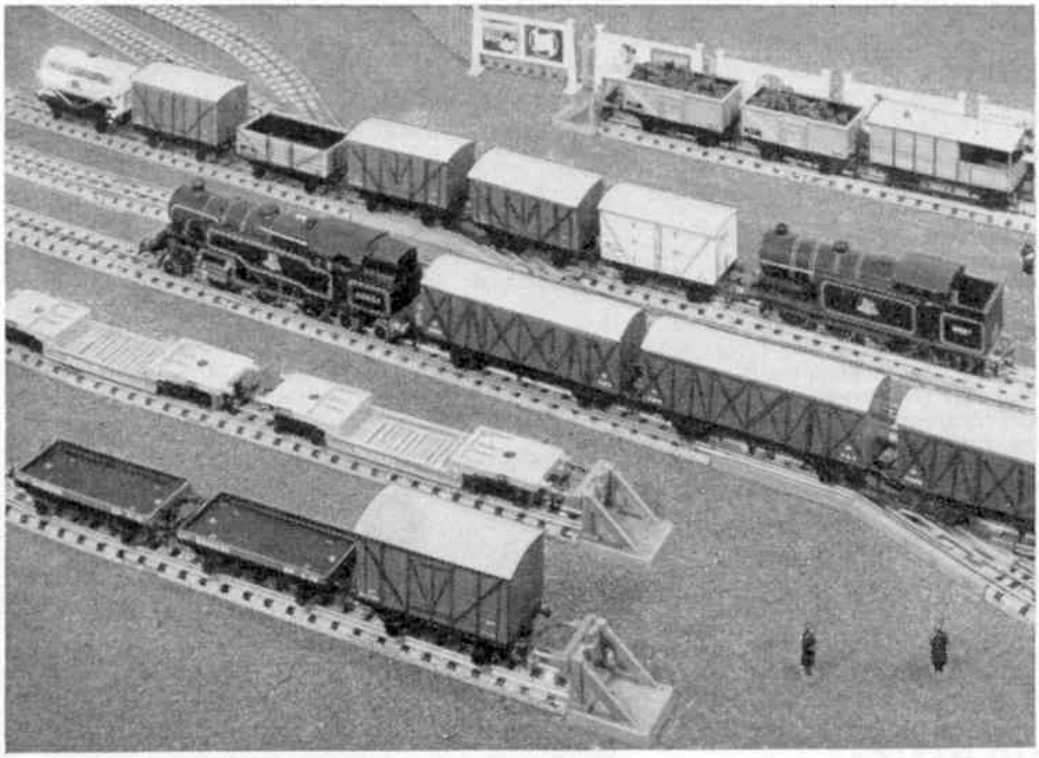


The Long Wheelbase Vans next to the engine suggest a fast freight train. In the background a shunting movement is in progress.

HORNBY RAILWAY COMPANY

Good News!

By the Secretary

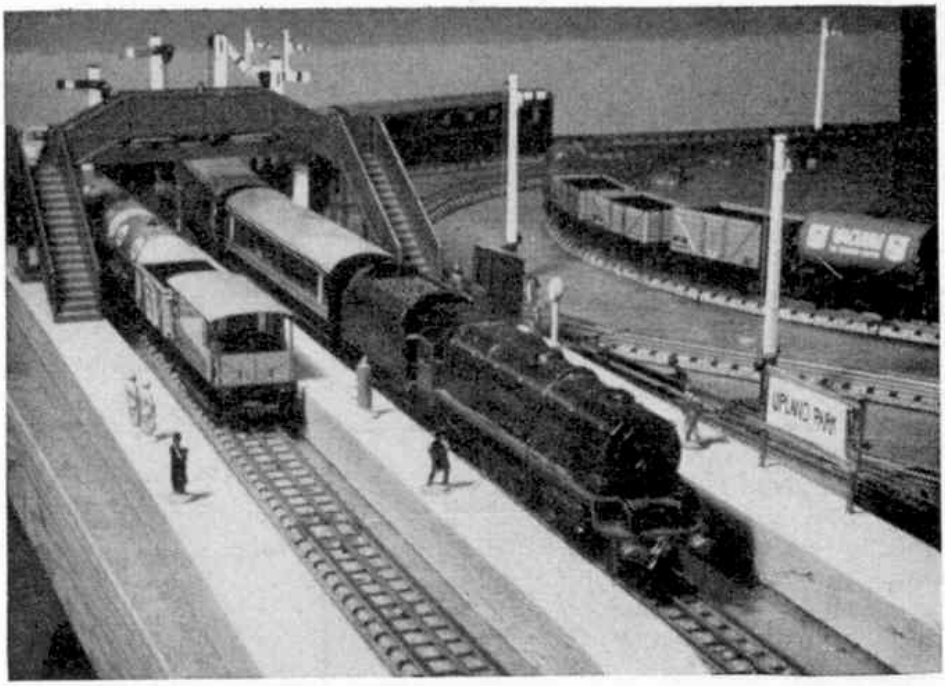
RECENT weeks have seen the appearance of further new things in the Hornby-Dublo system. I expect that some readers will already have seen these, and those who have not will welcome gladly the details that follow.

You are now all familiar with the long-wheelbase goods vehicles added to the range towards the end of last year, and there have been suggestions that a Train Set including these would be specially attractive. Well, this has come along, in the shape of the new EDG19 2–6–4 Tank Goods Train Set. The popular and powerful 2–6–4 Tank has a worthy train in the long wheelbase Ventilated Van, Tube Wagon and Double Bolster Wagon, with the *Mobil* Tank Wagon, distinguished by the latest insignia, and the L.M.R. type Goods Brake Van bringing up the rear.

This then is quite a smart train that can very well mean the beginning of a fast freight service on a Hornby-Dublo layout. Two of the long-wheelbase vehicles represent brake fitted stock, that is fitted with vacuum brakes, and so they are distinguished from the others in the Set by their bauxité colouring.

Recently it has become possible in Hornby-Dublo to follow up the change in livery for B.R. corridor stock that began in actual practice rather more than twelve months ago. I expect that some of you will recall the news that the red and cream livery with which we have become familiar was gradually to be replaced by a one-colour finish in maroon. There are exceptions to this arrangement, but I will say more about these in a moment.

These changes are being made gradually in actual practice. So, in Hornby-Dublo, red and cream stock is retained for the time being. But in another new Train Set, the EDP22 *Royal Scot* with the *Duchess of Montrose* 4–6–2 Locomotive, there are what are known as D22 Corridor Coaches, of the type with pierced windows and internal corridor partitions, available in this latest finish and very good they look, too. There are two types of the new coaches, known respectively as D22 Corridor Coach, Brake 2nd, and D22 Corridor Coach, 1st/2nd. Horizontal lining runs along the waist of these vehicles and above the "lights," as the windows are called by coach builders. The ends are black, as is usual nowadays, and the



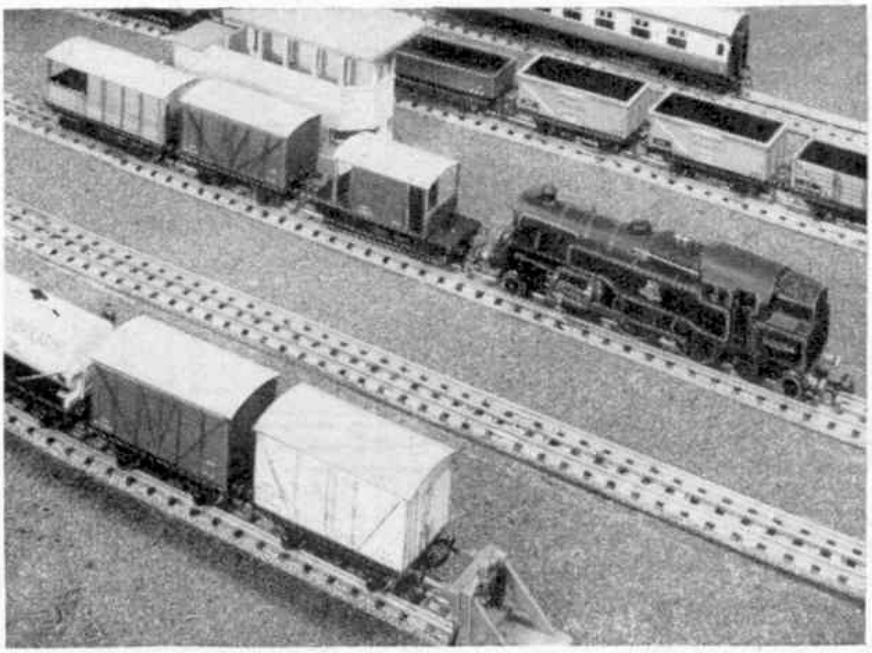
"Upland Park," on the layout of J. D. Wethey, Oxford, with a passenger train of one-colour Corridor Coaches alongside the platform.

roofs are the standard B.R. shade of grey.

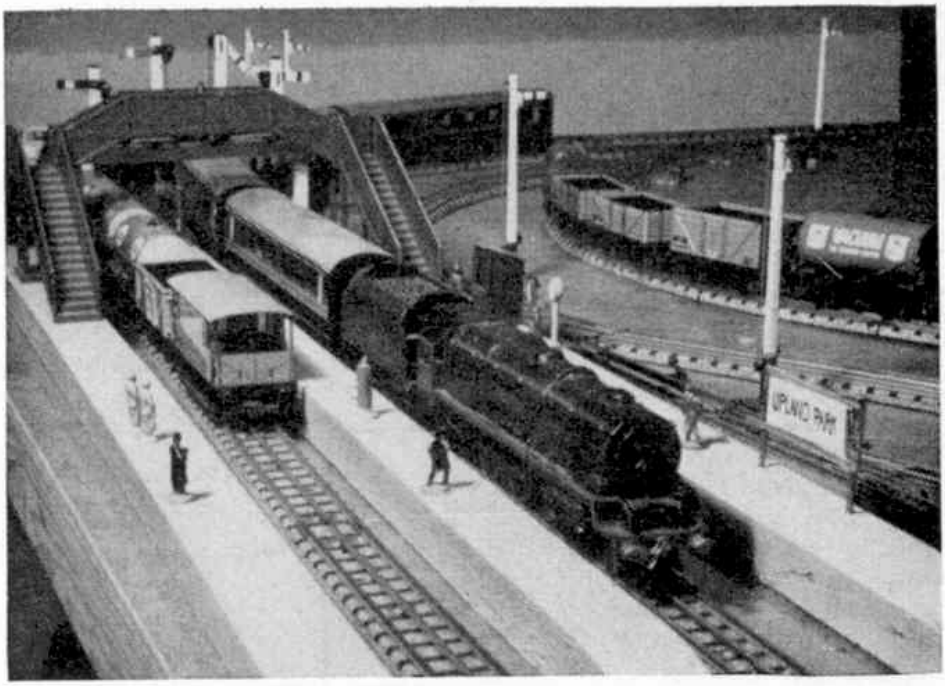
Here then is stock that provides you with the opportunity for putting into operation on your layout not only the famous service after which the set is named, but many other long distance main line trains on which Duchess engines are used. Such Coaches would be just the thing also for the newly instituted *Talisman*, which operates morning and afternoon over Eastern, North Eastern and Scottish Region metals. Your *Silver King* is just the engine for this job, with its corridor type of tender for through running purposes.

And here are two suggestions that would give many of you more fun easily. First, there is no reason at all why you should not add the maroon vehicles of the EDP22 Set to an existing red and cream corridor train, for this sort of mixed formation is something that is seen every day at present on the real railways, even on quite important expresses. Second, older Hornby-Dublo owners will recall the Corridor Coaches in the colours of the former L.M.S. that were available before the introduction of B.R. liveries in Hornby-Dublo. Well, the new maroon D22 Coaches have a similar appearance, and the two types could in fact be quite reasonably run together on a layout incorporating old stock as well as new. This is bound to happen on systems that have been built up over the course of several years.

Now for the exception I mentioned earlier. The Western and the Southern Regions are more or less excepted from the change-over to maroon coloured corridor stock. These Regions have their own liveries. There is green for the Southern, while the familiar brown and cream long characteristic of the former G.W.R. has been adopted as standard for Western Region corridor stock used for the principal long distance expresses. It has not yet been possible to incorporate this change in Hornby-Dublo, but who knows? Perhaps I shall have the pleasure of announcing the introduction of one of these Regional colour schemes later on.



A Hornby-Dublo 2-6-4 Tank, with a Cattle Truck and two Goods Brakes, is on its way bunker first to carry out pick-up goods train operations down the line.



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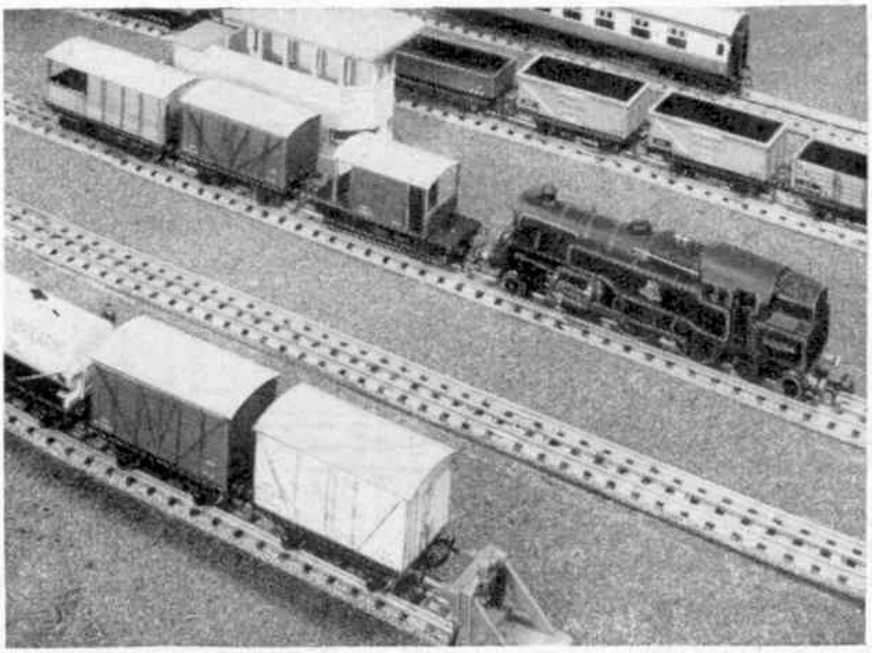

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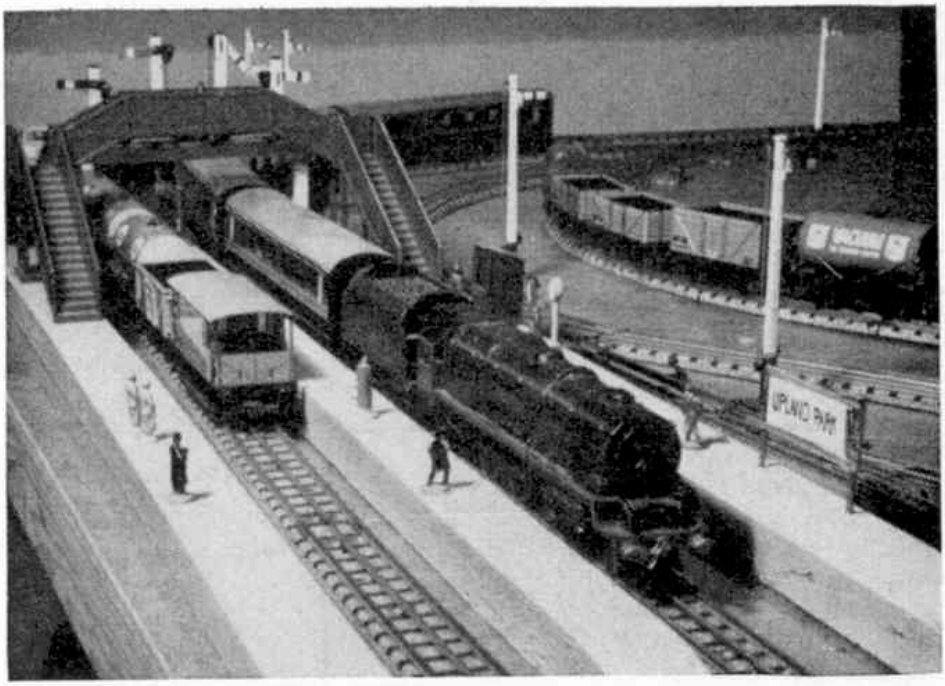

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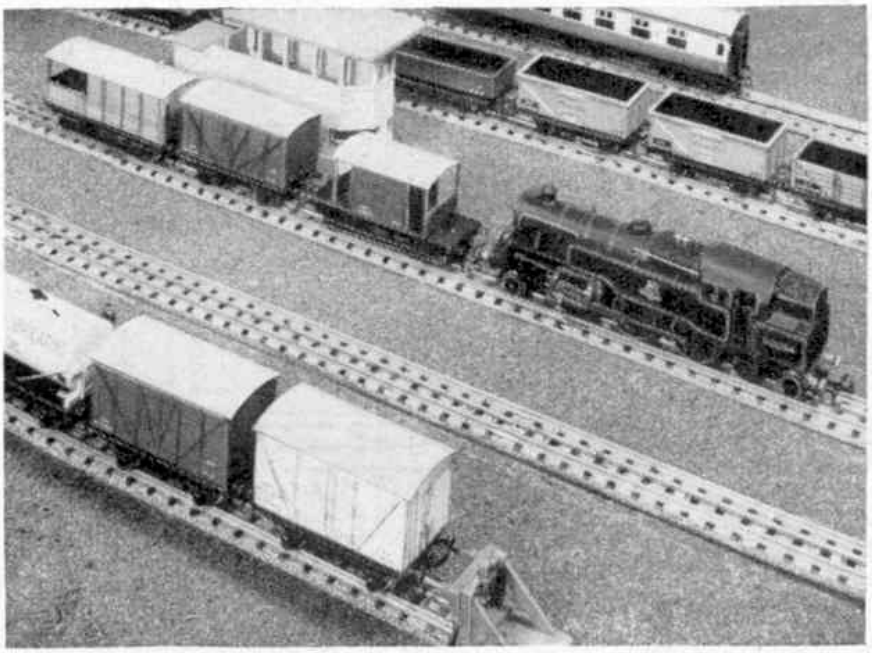

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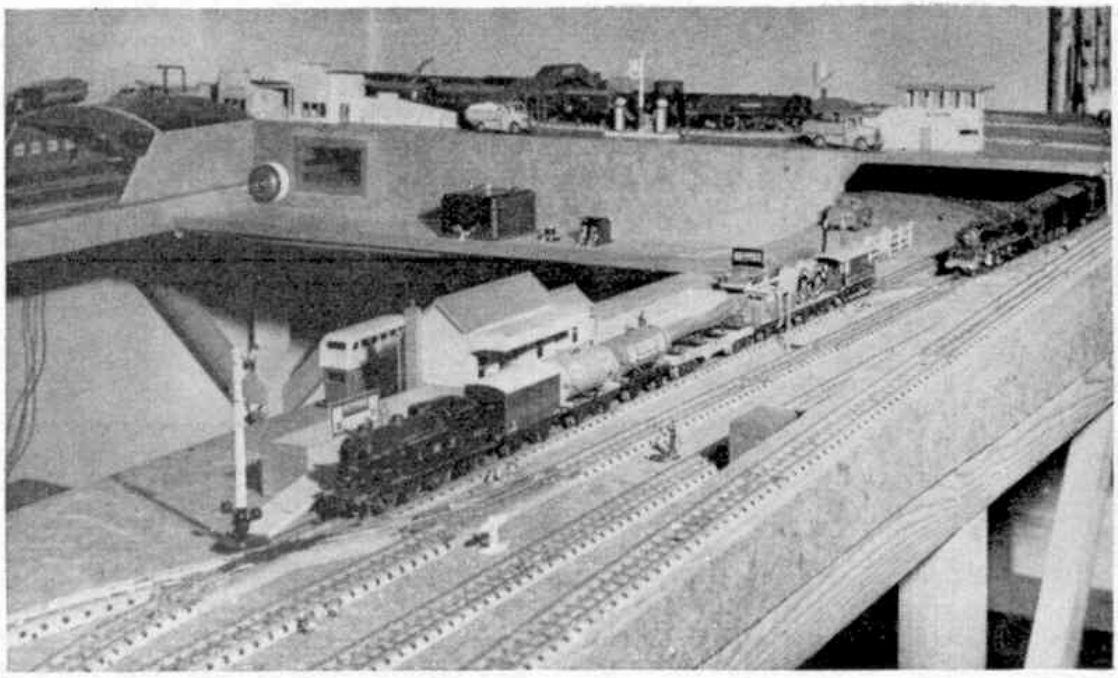


A Neat Two-Level Layout

PETER BARR, a keen *M.M.* reader and Hornby-Dublo owner, a little while ago sent us details of his layout, which is illustrated on these pages. It is still in course of development. So far not a great deal has been done towards the building up of lineside effects, but for our purposes this has the advantage that the track and its immediate surroundings are shown very clearly in our pictures.

Those who are interested in layout diagrams, and most Hornby-Dublo owners are, will be glad to see the plan on the opposite page of this railway, with a list of the rails, etc., required for it. The layout requires a space of approximately 10 ft. 6 in. by 6 ft.

The illustration above gives a good general idea of the two-level Hornby-Dublo layout of Peter Barr. In the background is the high level end of the system, from which the inclined track to the right of the picture leads down to normal level. A goods train is passing through the wayside station, while another train, Duchess-hauled, is just beginning to overtake it.

It is obvious from the illustration above that the railway is built up on a well-framed and stoutly supported base. This is a good start because a firm level foundation is necessary for satisfactory track layout and good running. A railway is, as you know, only as good as its track. More careful attention is being given to this aspect of miniature railway construction nowadays, and this is all to the good.

The double track main line and the inner circuit shown in the diagram are laid at normal baseboard level. Special interest is given to the layout by a high level section at one end of the main oval. This is reached by means of an incline from the outer main track. The tracks at normal level are carried underneath the high level section by a sort of covered way rather than an actual tunnel, a total of four tracks being involved. The extent of this raised section is quite plain from an examination of the three illustrations, and it is a very attractive feature, in both appearance and running.

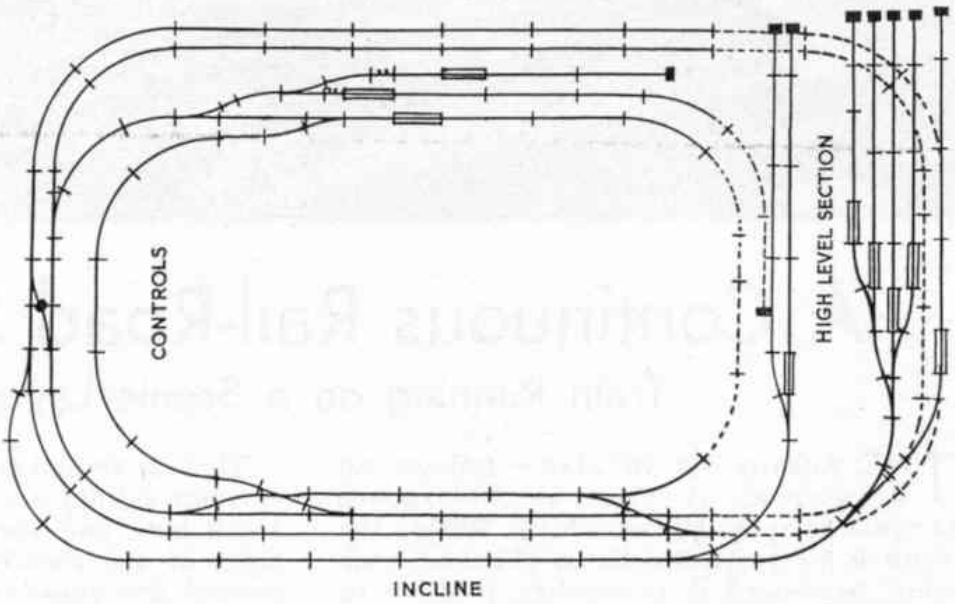
The opening that you can see in the wall of the covered way, to the left of the Controller, is actually an inspection "window." This is specially useful because one of the tracks inside the covered way is a siding ending in a Buffer Stop and movements along it have to be carefully managed by the operator. The opening has other uses too, particularly if any slight mishaps occur. Such things *will* happen in a tunnel, if they happen at all!

The high level section forms the neat terminal layout shown in the lower

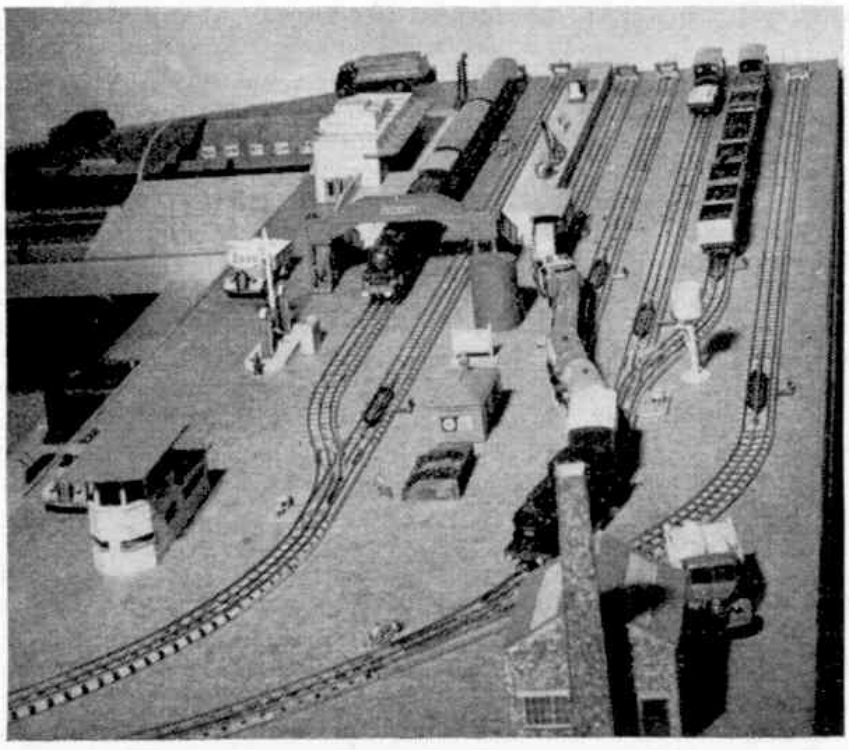
illustration on this page, providing for both passenger and goods traffic. In addition to the standard Hornby-Dublo Main Line Station, there is a length of plain platform that can be used for passenger trains if necessary, and for certain types of goods traffic as well. A freight train is actually shown leaving this platform in the picture below.

The Uncoupling Rails on this layout have been strategically sited so that the fullest advantage of the tracks concerned is afforded in the matter of train length. You will notice in one of the sidings a train of coal wagons reaching from the Uncoupling Rail to the Buffer Stop, just as they have been left by the engine concerned.

Although only one Controller, of the older D1 pattern, is shown in the illustration, there are in fact two others at the opposite end of the operating space, as the railway really consists of three main sections. The Controller shown looks after the branch track, incline and high level section. A second governs the outer main line track, and a third is responsible for control of the inner main track. There are various individual sections arranged by means of Isolating Rails and Switches. Two of these, as well as a push button switch for an Electrically Operated Uncoupling Rail, can be seen in the picture at the top of the opposite page.



Peter Barr's layout requires the following rails, etc.: 22 EDA1; 2 EDAT1, 7 EDA2; 1 EDAT2; 13 EDA1½; 65 EDB1; 22 EDB1½; 6 EDB1¼; 2 IBR¼; 2 Switches D2; 9 UBR; 2 Diamond Crossings Right-hand, EDCR; 4 EODPR; 7 EODPL; 10 Switches D1; 2 ISPR; 4 ISPL; 9 Buffer Stops D1.



A fine view of the passenger station and goods sidings on the high level section. A loaded freight train is just leaving the yard.

In addition to the railway incline from the ordinary to the high level, there is one for road traffic on the opposite side of the board. This provides easy access for cars, taxis and lorries to the passenger station and goods depot. This matter of road access is a point that, in miniature, is not always given the attention it deserves, even on well developed systems.

As might be expected, the railway gives a great deal of pleasure to its owner, and to those of his friends who at times take part in joint operations. That is one reason why the various Controllers are not grouped together—the railwaymen cannot easily get in each others' way!

A Continuous Rail-Road System

Train Running on a Scenic Layout

THE railway shown above follows an arrangement that is becoming increasingly popular nowadays. Within the more or less restricted limits of the average train baseboard it is scarcely possible to develop the lineside very extensively, for a continuous main line is a necessity for long through runs and the space inside the main oval is usually required for sidings and other track developments. This means that scenic features cannot be accommodated there. So those who require something more than a plain scenic background often solve the problem reasonably well by the inclusion of a tunnel section providing a raised base, on which part of a picturesque township can be arranged.

The layout we show here has been developed on these lines by Mr. R. Halton Balderstone, who has managed to include not only a great deal of railway, but also a fair amount of town or village in the layout. In the centre of the system is a terminal station known as *Chester*, the branch on which it is situated being connected to the inner main track. Soon after the junction points the line is carried below the raised section, which stretches approximately half way round the system.

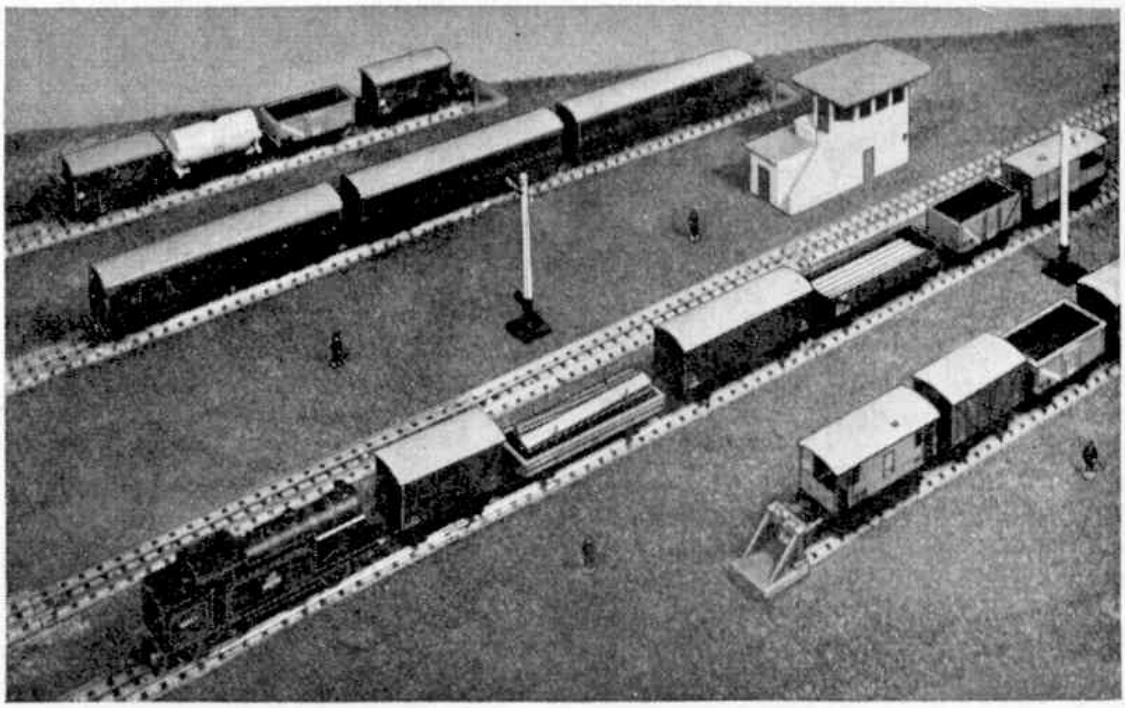
In the foreground of the view above, to the right of the operating panel, is another station known as *Altrincham*, which has virtually two goods yards, one inside the main oval and the other outside it, with a separate small yard for coal traffic. This is a good feature, typical of so many real stations, and it gives splendid scope for the use of road lorries—Dinky Toys, of course—and for the development of simple, but effective things like a coal office, coal pockets and so on.

There is also an engine shed. In addition, carriage sidings are connected to the main track here and these can be seen at the right of the illustration, stretching away toward the supporting wall of the raised scenic section. So *Altrincham* is quite a busy place.

There is plenty of traffic on the line, as is evident from the picture above, and the lineside effects introduced fit in with the general scheme of things. There is for instance a small factory building devoted to making of cable drums, several of which appear in the works yard. Naturally, there are plenty of the correct Hornby-Dublo Low-Sided Wagons to convey the products of the factory to various destinations.

The section where the track passes below the town is not entirely covered in, and the arched openings in the wall seen in the background of our picture allow trains to be watched during most of their underground passage. In addition to this there is a suitable hole in the baseboard that is reached from underneath, so that the owner can deal with any problems that arise in the tunnel section. Road access to the different stations is provided and Dinky Toys motor vehicles make up the traffic on the roads. Appropriately, there are several Double Deck Buses, Dinky Toys No. 290, which are just right for Hornby-Dublo layouts.

There are three separate main sections, each with its own power supply and control arrangements, so that independent operation is possible. There are the requisite insulating arrangements between the various sections at Points connecting them, but these do not prevent through running from one section to another when the operating programme calls for this.



HORNBY RAILWAY COMPANY

A Useful Turntable Scheme

By the Secretary

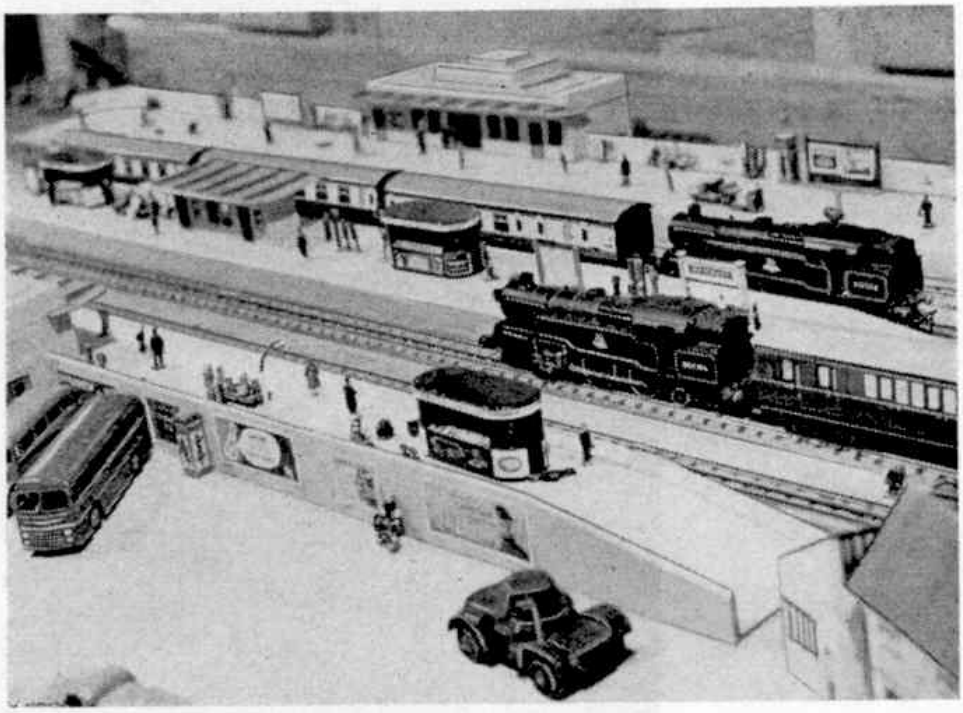
IT is always interesting to hear from those of you who have been able to add some, if not all, of the latest introductions in Hornby-Dublo to your own layouts. Many of you have now told me what you think of the long wheelbase stock represented by the Tube Wagon, Ventilated Van and the Double Bolster Wagon after trying them out for yourselves and what you have to say bears out my own experience that these vehicles ride easily and well.

The Ventilated Van has made its appearance in many Hornby-Dublo passenger train formations, as well as in freight trains. One correspondent sums things up very simply by saying that *The Ventilated Van just goes, wherever you happen to attach it in the train, either passenger or goods.*

The freight train shown in the picture at the head of the page is a noteworthy one, for it includes one each of the long wheelbase vehicles recently introduced into the Hornby-Dublo system. The Double Bolster and the Tube Wagon, each carrying a suitable load, can readily be distinguished, and the Ventilated Van can be recognised just as easily by its length.

When talking about the Hornby-Dublo Turntable last month, I mentioned its various possibilities from the layout point of view. Those who have become proud owners of this fine new accessory will not have been slow to find some of these for themselves. Apart from the arrangement of parallel tracks that I mentioned to you, and which is illustrated in the instructions leaflet that goes out with each Turntable, there is the possibility of making quite interesting yard or engine shed layouts with the tracks simply radiating from the Turntable. An arrangement of this kind is shown in the diagram on the opposite page, and you will see what a splendid opportunity you now have of installing and operating an engine shed of the so-called roundhouse type. The building could be made to cover all five outlet tracks if necessary; alternatively a couple of roads could be left in the open, possibly for coaling and ashpit purposes and so on.

In a system of this kind, or indeed with the arrangement involving parallel tracks, you can arrange to accommodate more than one engine on each individual track. This is done by placing an Isolating Rail at a suitable point, say at the end of the first EDB1 rail length. One engine can stand at the Buffer Stop end on the isolated section and another engine can



A station view on the Hornby-Dublo layout of Mr. A. R. G. Pearce. Four running tracks are provided through the station.

then come from the Turntable along the same road without interfering with it. Care must be taken by the driver not to overshoot the Isolating Rail, of course! The engine standing on the isolated section can be moved, when the way is clear, if the D2 Switch connected to the Isolating Rail is switched on.

An interesting application of the Isolating Rail and Switch appears in the diagram, where an Isolating Rail is attached direct to the Turntable on the centre outlet track. The idea is that this track can be isolated by means of the Switch, and an engine can then stand there without being influenced by the arrival of another locomotive on the Turntable from the opposite inlet track. Without the Isolating Rail and Switch the centre outlet track would of course be live in such circumstances.

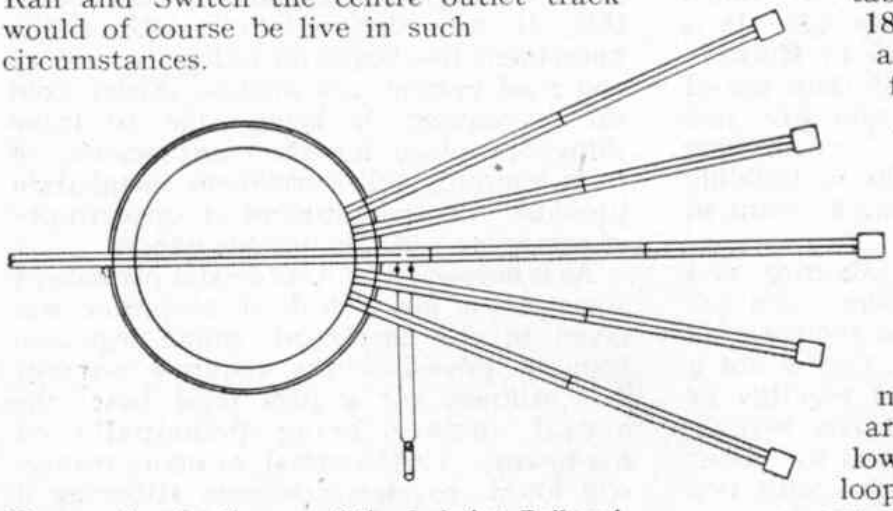


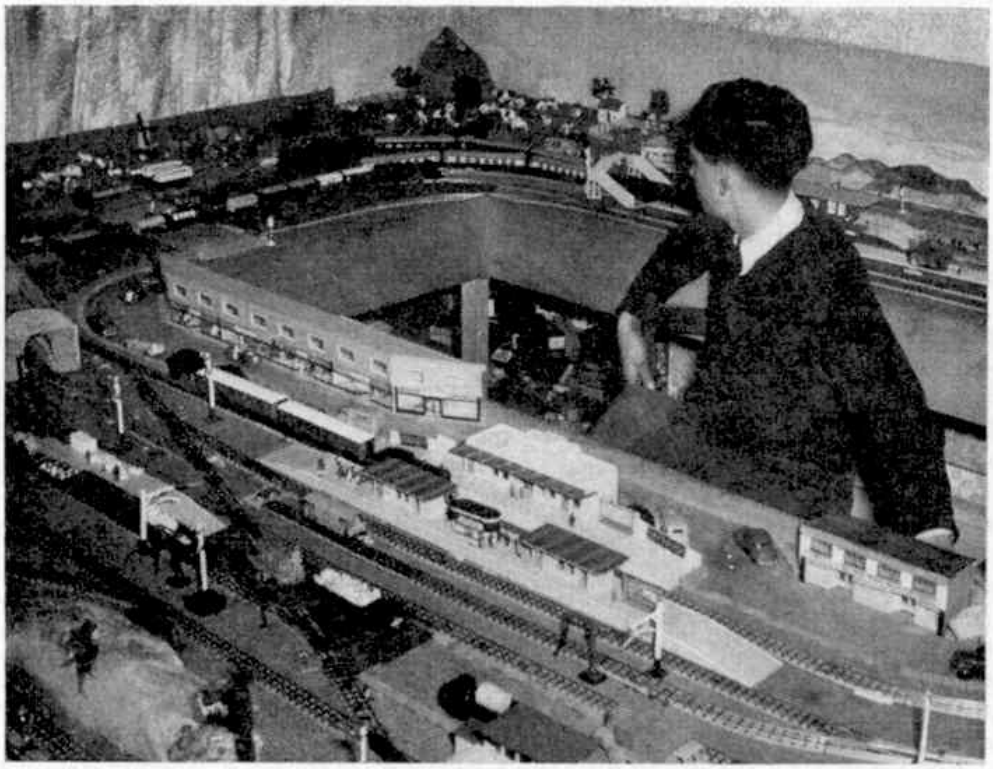
Diagram showing the use of the Isolating Rail and D2 Switch in conjunction with the Hornby-Dublo Turntable.

A similar situation would arise if an engine from one of the other radiating tracks were to make its way on to the Turntable and be lined up on the Turntable road to go "off the shed." This again would render the centre track live. As long as this track is not required for engine storage there is no need for an Isolating Rail, but it is a useful refinement that most of you will appreciate.

In the *M.M.* last October we included a picture of part of the layout of Mr. A. R. G. Pearce, showing his son Arthur, a capable 5 year old Hornby-Dublo operator. I am glad to be able to show you another view of the main station, for this is obviously a busy place. The layout is arranged on tables in a shed measuring 18 ft. by 10 ft., and the track arrangement is such that four trains can be moved at one time. Trains can be crossed from one track to another very readily and isolating and switch arrangements make it possible for one train to be looped round another when necessary.

Although the bulk of the main line and the sidings are at normal level, there are low level and high level return loops. These allow trains to be moved from the outermost track to the innermost track of the four roads that can be seen passing through the Station.

It is interesting to know that although all Points on the main line of this layout are electrically operated, by means of the usual D1 Switches, the siding Points are worked by hand. This arrangement works out quite conveniently, and the operator can manage without difficulty to keep traffic moving from the control position.



Maurice Cohen surveys his Hornby-Dublo layout, an extensive system with effective lineside arrangements.

An Effective Rail-Road Layout

THE illustrations on this and the next page show parts of an attractive Hornby-Dublo layout, details of which reached the Editor some time ago. It is certain that they will appeal to Hornby-Dublo owners generally, and they are of special interest to those who are just beginning their railways in showing something of the possibilities in building up a good layout where a fair amount of space is available.

The system is run by Maurice and Terry Cohen of Kidderminster, who are surely to be congratulated on the splendid effects they have obtained. This is not a layout that has been rushed together or acquired quickly. In fact it has been in process of gradual development for about eight years. The system began with two Hornby-Dublo Train Sets, which were simply run on the dining room table when required and without any scenic effects. Then came a house removal, which provided the eagerly-awaited chance of installing the railway in a room that could be devoted entirely to the trains and to Dinky Toys.

With the addition of further equipment, both Hornby-Dublo and Dinky, the cleaning and packing up of every item at the end of each school holiday became a major operation occupying practically a whole day. After some experience of this, it was decided to construct the permanent baseboard on which the railway and road system now stands. Apart from the advantage of being able to leave things in place for the next session of train running, this permanent installation provided the long-dreamt-of opportunity of arranging suitable lineside effects.

As is necessary for a successful permanent structure a good deal of attention was given to the baseboard, sound legs and framing providing the requisite support and stiffness for a firm level base, the actual surface being principally of hardboard. This material, as many readers will know, requires adequate stiffening if it is to remain permanent and level. The overall dimensions of the baseboard are 13 ft. by 10 ft., the operators being accommodated in a central space 6 ft. by 3 ft. This central situation has the advantage that practically any part of the system can be reached easily, which is a great convenience not only during operations but also in the course of cleaning, maintenance and so on.

The railway consists of approximately

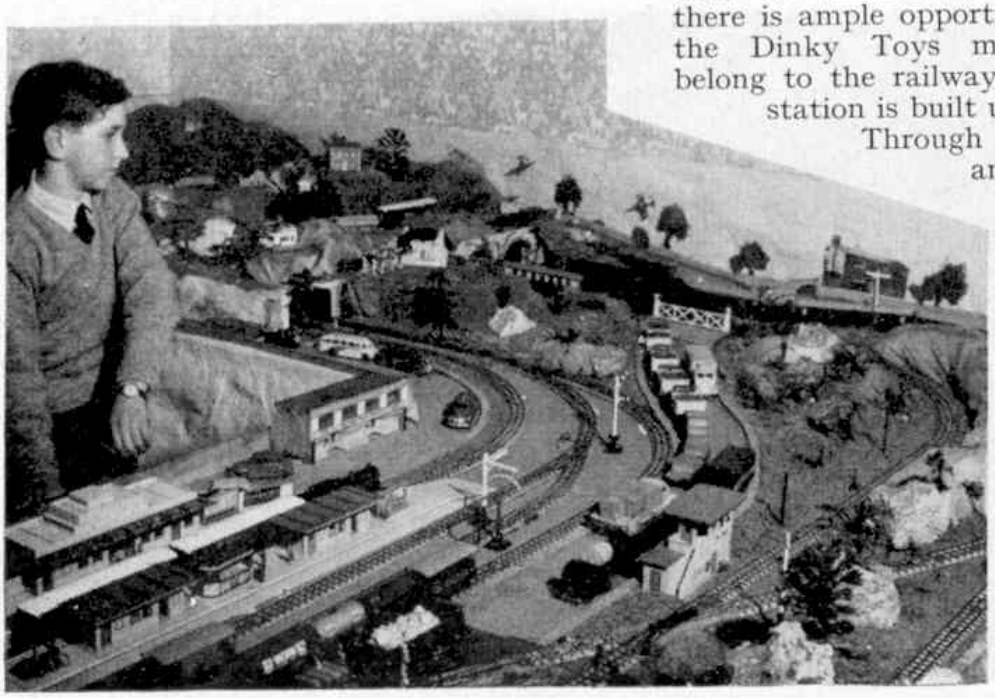
Another corner of the layout. The passage of the train over the Level Crossing has caused a considerable queue of Dinky Toys vehicles on the road.

140 ft. of Hornby-Dublo track, including 16 Points and several Crossings. There are four main running tracks, each with separate power and control, so that it is possible to have four trains running at once, with another standing by. The various tracks are linked for through running purposes by a useful diagonal connection involving two Diamond Crossings and various Points. Of course, on a layout of this description some Electrically Operated Points are a necessity and in some instances these are wired to operate in conjunction with the appropriate Signals. This is a useful feature, which saves Switch levers, and the aspect of the signal arms is a useful indication to the operator of the way in which the Points are set.

The scenic effects were begun by painting a background on paper, which was then fixed to the wall in lengths. This background is simple, which is a good point, as over-elaboration in background scenes spoils the effect. In order to justify the tunnels through which all four main tracks run, a hill section was built up in one corner. The hill surface consists of dyed cloth spread over a suitable framework, sawdust of varying colours being applied here and there to help the natural effect of the surface.

There are rocks and cliff faces too, either of actual stone or simulated by means of bark from birch trees. The little trees on the layout were not made at home, the railway engineers having found miniature tree construction something of a problem. They are not alone in this of course, and there are in any case plenty of miniature trees about nowadays.

The track runs partly through highland and partly through lowland type scenery and, as is obvious from the pictures, there is ample opportunity for the use of the Dinky Toys motor vehicles that belong to the railway owners. The main station is built up with the standard Through Station on one side and a combination of two Island Platform centre sections placed end to end without the intermediate ramps. Behind it there is a street with a block of shop property on the opposite side.



Terry Cohen, joint owner of this Hornby-Dublo layout, lends a hand in managing the traffic by rail and road.

Lineside Extras

Little Things That Count

AS many readers know, a railway consists of a great deal more than track and trains, stations and signals and so on. There are many smaller details that play an important part in the general operation and maintenance of the system. Some of these can become so familiar to us that we hardly notice them, whether we travel regularly or whether we do most of our railwaying by train watching at the lineside. It is such lineside features of various types that we are going to talk about now. No doubt the simple example shown in the picture below will encourage you to look for others and to reproduce some of them in miniature for your own Hornby Railways.

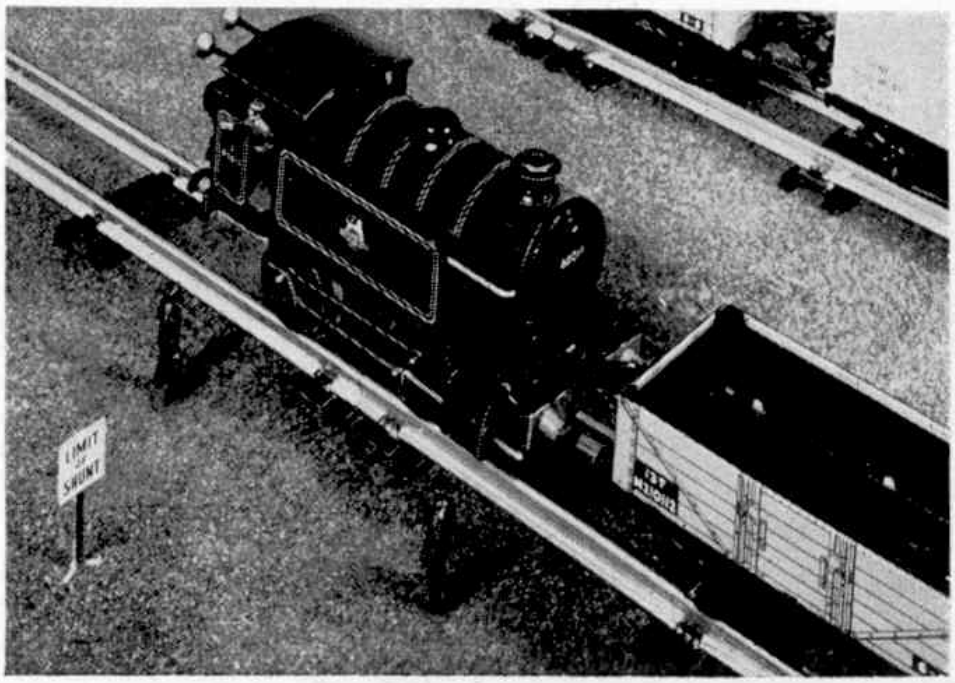
Lineside signs such as the warning board in our picture provide the *Do It Yourself* enthusiasts with plenty of opportunities for exercising their ingenuity and skill. Before fixing up any particular warning board or sign it is of course necessary to make sure that the board is used correctly.

Boards such as that shown in our picture are found alongside the main line in situations where a train that is being shunted in and out of sidings has to draw out on to the main line in order to make the necessary movements. Wherever possible a spur or head-shunt road is provided for this purpose, so that such movements can be made clear of the main line. But this cannot always be done. As the main line is divided into signalling sections, a board is placed to indicate the shunting limit in order to prevent a shunting train moving from one section to another.

In miniature practice it is not often possible to include a shunting spur, most goods yard Points being approached directly from the main line. Hence the wording used on the miniature board shown here. This was made, in one piece, of card. If white card is used for the purpose the wording can be written on to it directly in Indian Ink. Alternatively a white adhesive label or a piece of paper can be attached to the board.

A more satisfactory job will be to make the post and board separately. A length of thin wood, round or square in section, can be used for the post, and the board itself can be thin wood too, if preferred. On a permanent railway with a baseboard the post can be planted into a hole in the baseboard, but on a temporary layout a suitable stand will have to be provided. This can be a small square of wood to which the post is attached, or there may be some little oddment at hand that will do.

Many other types of notice can be made up. For instance, one may carry to trainmen such instructions as *British Railways Locomotives Must not Pass this Board*, sometimes seen in private sidings. Again, notices to passengers, such as the familiar *Passengers Must not Cross the Line Except by the Footbridge*, can be provided. You will find many other suitable notices about.



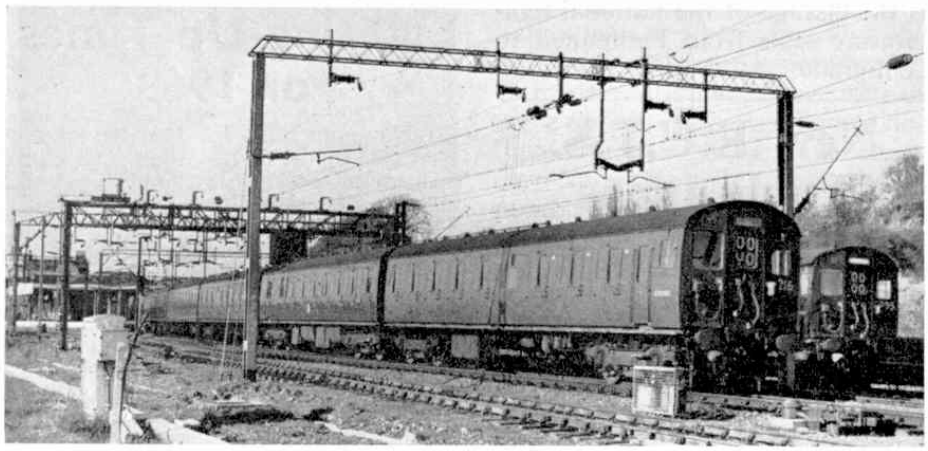
Whoa! The Driver of the shunting engine has just gone past the warning board at the lineside. The engine is a No. 40 Tank.

RAILWAY NOTES

Contributed by R. A. H. Weight

TILBURY AND SOUTHEND ELECTRIFICATION

A YEAR ago (February 1962 *M.M.*) I reported the vast structural, signalling and traction changes being effected along the London, Tilbury and Southend lines of the Eastern Region. I described the rather unique suburban-type residential passenger services operated intensively over distances up to nearly 40 miles each morning and evening between the City terminus, Fenchurch Street, and Barking, Upminster, the Southend-on-Sea group of stations and Shoeburyness, Essex. The motive power at the time of my previous visit, in 1961, was almost entirely class 4 2–6–4T steam locomotives, though Brush diesels were working some passenger trains as well as a number of the long-distance freight services through to other Regions, or E.R. lines, as they do now.



Since last summer more frequent overhead-wire electric passenger trains have provided quicker average overall and intermediate timings, not only during peak hours but on a regular-interval basis throughout the day, providing from two to six trains every hour, according to location, in each direction.

This includes services via Tilbury—a loop route serving many important industries and Thames-side activities. Numerous journeys between London and Southend take only 45–47 minutes including several stops; mile-a-minute averages are maintained, uphill and down, and are sometimes exceeded between halts only about twenty miles apart, with maxima of fully 75 m.p.h. quickly attained, as I noted, for instance, between Barking and Upminster stops, only $7\frac{3}{4}$ miles from each other.

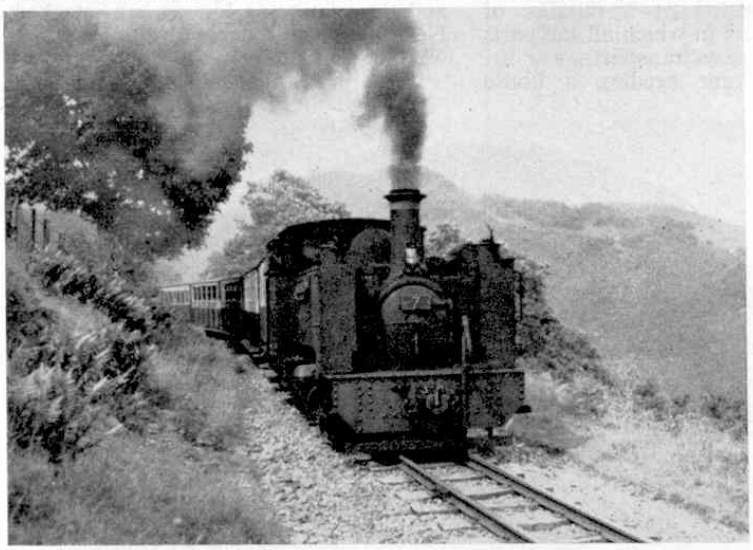
Multiple-unit four-coach sets, having comfortable first and second class accommodation for about 270 seated passengers, are coupled together to make up 8 or 12-coach trains as traffic requires. The four electric motors driving the bogie wheels of one car in each set develop up to 960 h.p.

An automatic electric train-reporting system is to be installed down the Southend direct line, which will inform the Traffic Control Office at Fenchurch Street by means of track circuits, relays and electric typewriter, the passing times of each train at twelve selected intermediate points.

W.R. DEVELOPMENTS

"The South Wales Pullman will start at 16.55 hours; The Bristol Pullman (up) at

At left (top) English Electric Type 4 diesel No. D289 is seen alongside a Jubilee 4–6–0 No. 45628 "Somaliland", at Kentish Town. The photograph is by J. A. Fleming, who also took the picture for the heading illustration of a scene on the now-closed Westerham branch. Plans for its revival were referred to in the "M.M." last November. Bottom left: A multiple-unit electric train on a trial run on the Southend line at Pitsea. Photograph by M. Edwards.



Above: The "Cambrian Coast Express" waits to leave Dovey Junction behind No. 7803 "Barcote Manor". The Pwllheli portion has just been backed on to the Aberystwith section in this picture by Colin P. Walker. Left: W.R. No. 7 "Owain Glyndwr" is here approaching Devil's Bridge on the narrow gauge Vale of Rheidol line. Photograph by R. F. Roberts.

15.15"—so the departure indicators on Paddington and Temple Meads Stations respectively tell us. These announcements are part of a scheme now being extended to other stations' timetable sheets and train movement notices, as well as certain train brochures, to employ the Continental 24-hour clock system, which is already familiar in some British spheres.

Bright colour schemes departing from the customary chocolate-and-cream are being featured as stations are repainted. These include terra cotta and grey at Paddington, recalling in modern version a painting style in existence there many years ago. Others lately transformed in appearance and including various shades of grey finish are Taplow, Chippenham, Evesham, Frome and Teignmouth, and more are in process of redecoration.

Extensive modernisation of the signalling systems along the busy Paddington–Reading 36-mile section comprising four or more tracks has been proceeding by stages for some years. Not far out from Paddington, the new Old Oak Common signal box controls a complicated and much occupied network of lines, including the junction for High Wycombe–Birmingham and the north; also that leading to Kensington, the West London connecting links and the S.R., and the engine and carriage lines in and out of Old Oak Common locomotive and rolling stock depots. It replaces three former large mechanical cabins. The signalmen can set up more than 200 different routes, train paths or crossings, with their appropriate colour-light signals, in association with automatic train describers, thumb switches and electrical operation.

Resignalling and additional and rearranged tracks on a big scale form part of the railway facilities organised in Newport Docks, on the main line and alongside the vast new Spencer Steel Works of Messrs. Richard Thomas and Baldwins at Llanwern, Monmouthshire, opened by the Queen last October. I hope to describe these more fully later.

FAST DIESEL RUNNING

My friend, Mr. G. Tibbett, has kindly sent along detailed logs of a number of express runs under winter conditions between London and Bristol. The trains concerned were *The Bristolian*, with its normal load now heavier than in the 1¾-hour non-stop days, hauled by a Warship class diesel-hydraulic 2,200 h.p. locomotive, and the de-luxe *Bristol Pullman*, weighing about 370 tons, including self-contained diesel-electric 2,000 h.p. traction. Each provides the fastest service of its kind between the two cities, covering the 118½ miles, including one or two stops, in two hours or less, although fog and extra slowings caused a few late arrivals. On the other hand, lost time is often made up.

The westbound *Bristolian* from Paddington at 8.45 a.m. with "10-on"—about 360 tons gross, headed by No. D853, *Thruster*, had just two signal checks, ran steadily and fast without exceeding about 76 m.p.h., reached Bath Spa, almost 107 miles, in 100 minutes as booked, and Bristol, also punctually, at 10.44. With a coach less, No. D818, *Glory*, was more severely delayed by signals, as well as two other slowings for repair work, but attained 80–82 m.p.h. in places and reached Bath two minutes early. Bristol was reached a minute before time.

In the opposite direction from Temple Meads at 4.15 p.m. No. D820 *Grenville*, with "10-on", gained a minute to the Bath stop, but was not so lively thereafter, arriving two minutes late. This was more than covered by extra speed reductions, although there is a recovery margin. On a busy Friday, tackling the stiffest load I have heard of on this express—11, including some very heavy well-filled coaches and weighing decidedly over 400 tons gross—No. D822, *Hercules* (well named!), passed Swindon and Didcot ahead of time, covering 65 miles from Bath restart to passing Pangbourne, in the wooded Thames Valley, in 55½ minutes, averaging 70 m.p.h. with maxima of 80 m.p.h. In spite of severe repair and signal slowings on each side of Reading, a punctual arrival seemed in sight, but congestion outside Paddington at a peak evening period caused an unfortunate five-minute final signal delay.

The 115-minute Bristol–London morning Pullman was in Paddington to time amid heavy pre-Christmas traffic, keeping the 65½ m.p.h. schedule from restart to Bath, in spite of five slacks and one short stop for signals. There were rapid accelerations, with maxima from 84 to 86 m.p.h. on almost level track.

LOCOMOTIVE VARIETY

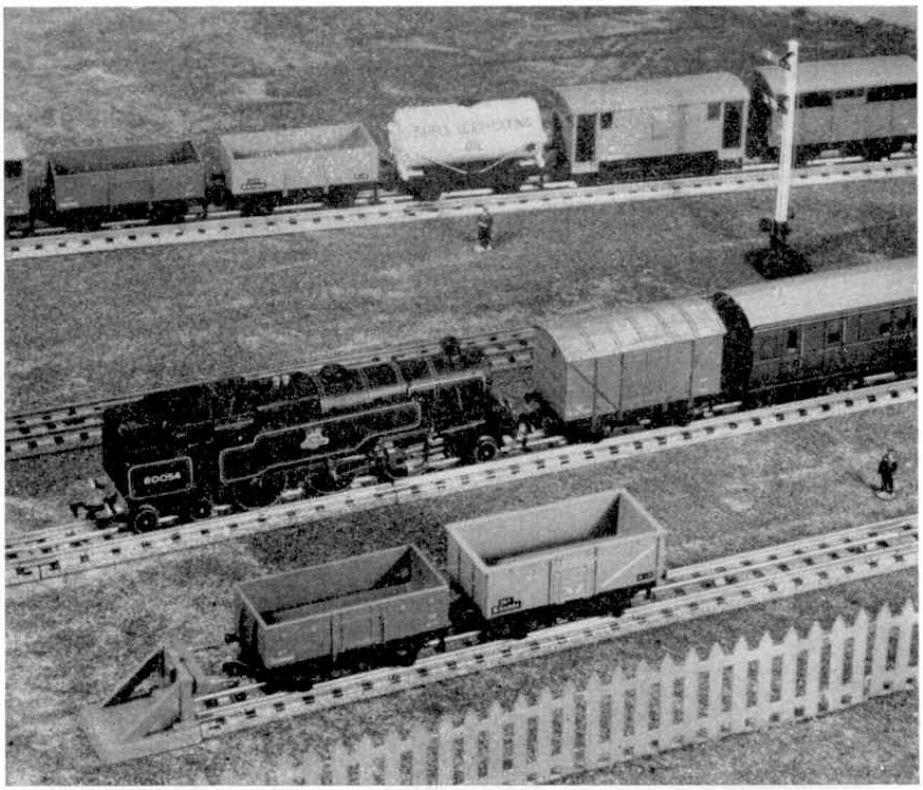
From another old friend, Mr. Norman Harvey, I have received interesting notes including lineside observations and travel stories of last summer. Shrewsbury Station, as I have pointed out before, is a most interesting junction and staging point. From there important main or cross-country English and Welsh routes radiate, causing busy periods in the station for long-distance trains, especially during the holiday season. Locomotive classes represented on Paddington–Chester–Birkenhead expresses, which pass through

(*Continued on page 94*)

Hornby Railway Company

By the Secretary

TANK PASSED THIS TEST WITH FLYING COLOURS



A Hornby-Dublo 2–6–4 Tank in action. This is a similar locomotive to the one used on the endurance test referred to on this page.

THE 2–6–4 Tank Locomotive shown in our picture here has been a familiar engine in the Hornby-Dublo system for quite a long time. All of you know that it represents the B.R. Standard 2–6–4 Tank design developed for heavy suburban and what is usually known as residential traffic. This type of engine is equally suitable for passenger or freight working and, in miniature, it is a great favourite on many layouts.

I am sure you will be interested in the account that follows of the performance put up by a Hornby-Dublo Three-Rail 2–6–4. A Hornby-Dublo enthusiast for many years, Mr. Brian E. Timmins of Erdington, Birmingham, reports on a remarkably successful display, using Hornby-Dublo Three-Rail equipment, held late last year by the Stourbridge and District Model Railway Society.

The test was an endurance demonstration and was based, in a modest way, on the Co–Co Diesel endurance test conducted by Meccano Limited in London in 1961 which was described fully in the *Meccano Magazine* of December that year.

For his test, Mr. Timmins used a Hornby-Dublo 2–6–4 Three-Rail Tank Locomotive and three Corridor Coaches. He operated them on a circuit measuring 189½ inches in length and the Locomotive and Coaches were run, without stopping, from 12 noon until 8 p.m. on the day of the exhibition. Throughout that time the train travelled at a constant speed and the stand-by *Bristol Castle*, which was kept at hand in case of any fault developing, was not called upon.

The demonstration aroused enormous interest, Mr. Timmins states. "It went off without a hitch", he adds "the 2–6–4 Tank performed admirably and finished the eight-hour run completely cold, as when she started. She ran with the load of three coaches for the whole time, with one notch to spare on the controller".

Over the tunnel mouth from which the train emerged on each of the 2,400 circuits which it made during the test was a placard headed, "Endurance Demonstration". Underneath were the words "This locomotive commenced running with the opening of the exhibition and will (we hope) continue running at constant speed for the duration."

Well, Mr. Timmins' hopes, and those of the other enthusiasts at the exhibition, were adequately fulfilled!

TIME	NO. OF CIRCUITS	DISTANCE	ACTUAL MILES	FROM HERE TO:–
12·00 NOON	ZERO	IN FEET.		
1·00 pm 1 HOUR	300	4740	0·9	STOURBRIDGE JUNCTN
2·00 ~ 2 HRS	600	9480	1·8	WORDSLEY.
3·00 ~ 3 HRS	900	14220	2·7	WEST HAGLEY.
4·00 ~ 4 HRS	1200	18970	3·6	HOLY CROSS.
5·00 ~ 5 HRS	1500	23700	4·5	HIMLEY HALL.
6·00 ~ 6 HRS	1800	28410	5·4	DUDLEY STATION.
7·00 ~ 7 HRS	2100	33190	6·3	OLDBURY.
8·00 ~ 8 HRS	2400	37900	7·2	GREAT BRIDGE.

Left: The schedule drawn up for the test run.

As previously mentioned, the length of the circuit was 189½ inches, and the time taken to complete one circuit was twelve seconds. The running speed of the engine and coaches was 0.9 m.p.h. actual, equalling a scale speed of 69 miles an hour. The scheduled journey was the equivalent of a trip by train from Stourbridge Junction to Great Bridge, a distance of 7.2 actual miles.

The schedule, as set out on the placard, is reproduced on page 76 giving the time taken, number of circuits, and the distance covered in actual feet and miles.

Perhaps the most intriguing portion of the placard was a small envelope arrangement at the foot in which a pad of paper had been put to record any "out of course" stops. Mr. Timmins, in sending details of the demonstration, stated, "A pad was attached in this position, but only the top sheet was used."

And on that top sheet, I should add, was the one word "Nil"—a most effective tribute to the 2–6–4's sterling performance!

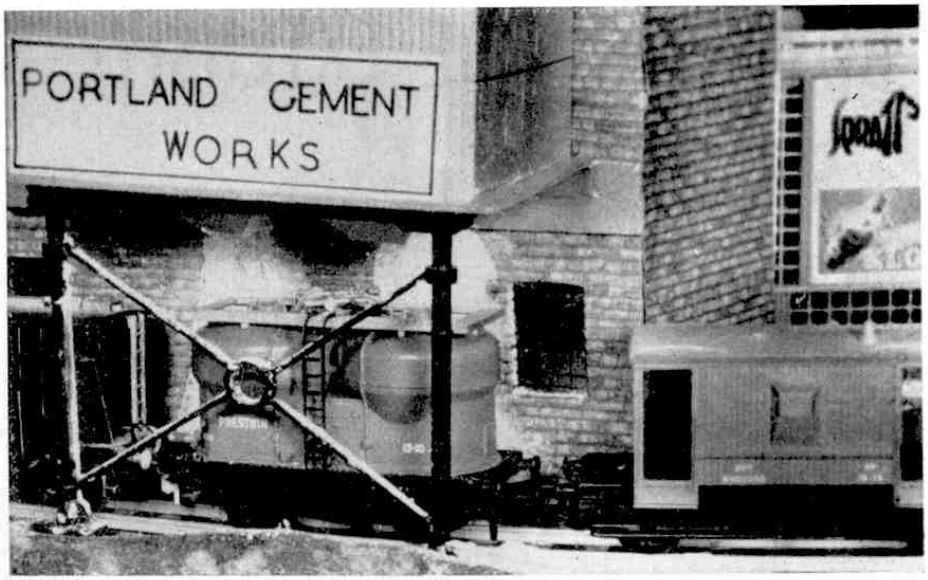
A 2–6–4 TANK QUERY

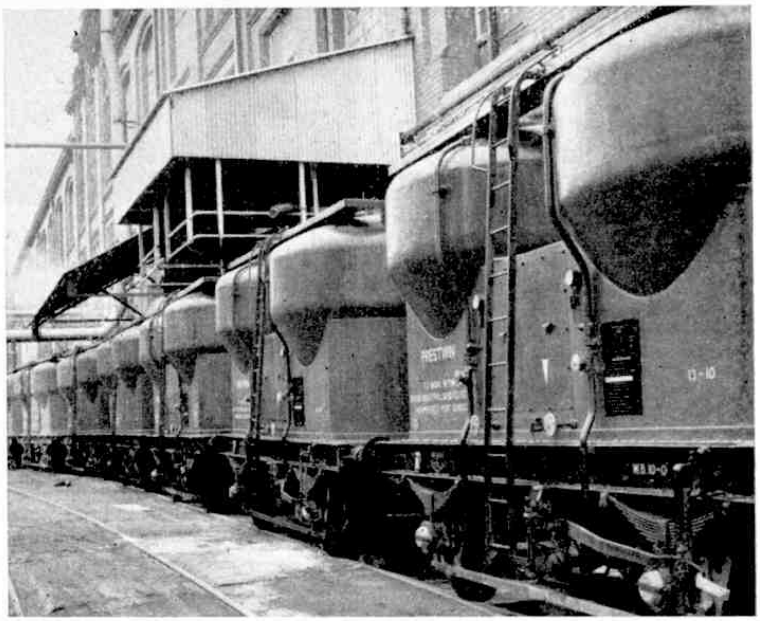
This happy account of 2–6–4 Tank performance reminds me that a number of Hornby-Dublo owners have written to me concerning the magnetic shunt device applied to the motor of this Locomotive. The purpose of including this refinement in the design was to provide for slow running, according to the setting of an adjusting screw, the screw head being accessible through a hole specially provided for the purpose in the back of the engine bunker.

In recent productions of this Locomotive this device has been omitted, since it is no longer considered necessary in view of improvements in the design of power control units for Hornby-Dublo purposes. So, it is possible that, if you have a 2–6–4 Tank which was purchased recently, it will not include the magnetic shunt device, although this feature may be referred to in the instruction booklet packed with the engine. I hope this explanation will clear up a point that has been puzzling some Hornby-Dublo owners.

L.M.R. TENDERS

Many older readers will recall the Hornby-Dublo 4–6–2 Locomotive *Duchess of Atholl*, long since superseded in the range by the corresponding 4–6–2 *Duchess of Montrose*, which in turn has been replaced within the last year or two by *City of Liverpool*, listed as No. 3226 in the Hornby-Dublo catalogue. The original *Duchess of Atholl* was a popular engine in its L.M.S. red livery and some of these veterans are still in use. A point that sometimes arises in correspondence concerns the tender of this type of engine. Somehow, in course of time, tenders for miniature locomotives get damaged, or go missing altogether, particularly if an engine has passed through the hands of several different enthusiasts. Tenders for *Duchess of Atholl* locomotives have not been available for many years now, and I am sometimes asked whether there is any suitable substitute in the present range. Fortunately there is, in the shape of the tender designed for the City 4–6–2s. As it happens, this is finished in maroon, a livery applied to certain L.M.R. 4–6–2's in recent years. From the running point of view, the tender is quite suitable for coupling to a *Duchess of Atholl*, and although its colour is not an exact match for the L.M.S. red of this type of engine, it can be considered reasonably close to it. There is the point that a *Duchess of Atholl* carries the former L.M.S. number, 6231, on the cabside, whereas the City tender is distinguished by the B.R. emblem. Strictly speaking, these distinctions belong to different periods, but this has not prevented a number of Hornby-Dublo owners mating the engine and tender concerned, in order to keep an engine in traffic which may still be effective.



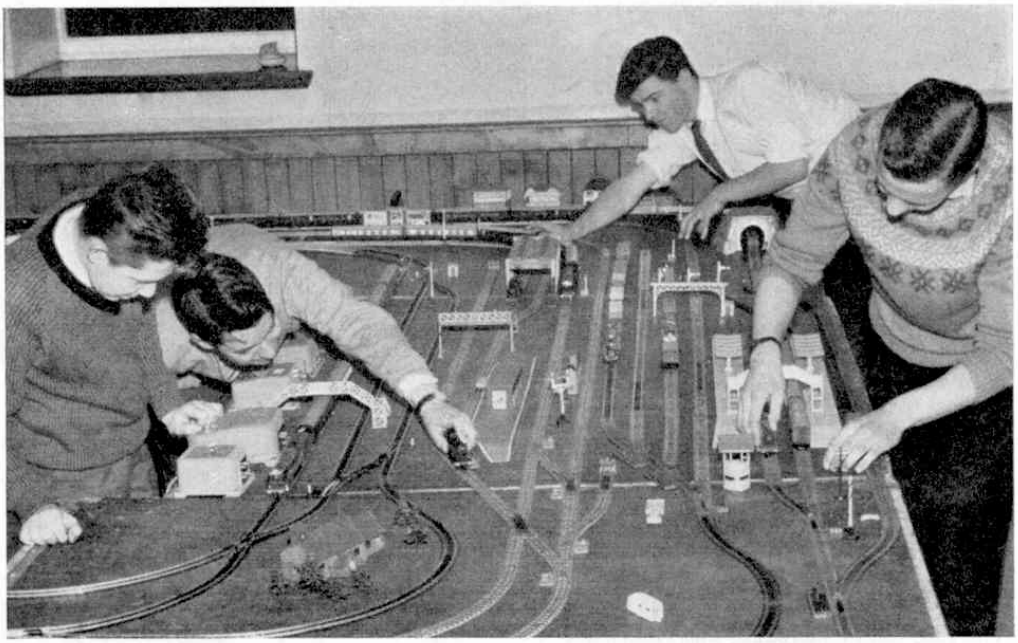


Above: Realism in miniature is the keynote here. On the layout of S. F. Page, a Hornby-Dublo "Prestwin" Silo Wagon is standing beneath the twin hoppers of a loading plant. Right: A similar situation in real life. This British Railways photograph shows a train of "Prestwin" Silo wagons at Avonmouth.

"PRESTWIN" WAGONS AT WORK

The two pictures reproduced on this page make an interesting follow-up to the notes that I gave a little while ago concerning the No. 4658 *Prestwin* Silo Wagon. In November last I drew your attention to the operation of such vehicles in block train formations between points where special loading and unloading facilities are provided. It is quite evident that this scheme is applied in miniature on the layout of S. F. Page of Sleapshyde, near St. Albans, reference to which is made by *Layout Man* on another page in this issue. In the upper illustration here we see a Hornby-Dublo *Prestwin* Wagon standing beneath the loading hoppers at a miniature cement plant. Next to it is the No. 4626 *Presflo* Bulk Cement Wagon, both obviously part of a formation of suitable wagons run specially for cement traffic.

BOYS' BRIGADE EXTENSIVE HORNBY-DUBLO SHOW LAYOUT



Some of the members of the 45th (Glasgow) Boys' Brigade busy preparing their railway layout for an exhibition. Hornby-Dublo equipment was prominent in the collection of material used on the layout. Photograph by courtesy of the "Evening Times", Glasgow.

NEWS reaches me this month of a splendid railway layout recently shown to the public by members of the 45th (Glasgow)

BY LAYOUT MAN

Boys' Brigade as part of an exhibition held by their organisation. As is evident from the picture on the right a great deal of the equipment used was Hornby-Dublo, and both Two-Rail and Three-Rail circuits were introduced, independently of one another, yet forming part of the one general plan. Space limitations frequently prevent the average Hornby-Dublo owner from developing extensive schemes of this kind, but they are undoubtedly highly effective for display purposes.

When the exhibition was over, *M.M.* reader and Hornby-Dublo enthusiast Morton K. Higgins, a member of "The 45th", who was partly responsible for the layout arrangements, sent along the photograph. I was very glad to see this, not only because it shows some of the Brigade members on the job, but because it also illustrates various features that can be applied with advantage to many layout schemes.

For instance, the actual layout, while as extensive as the baseboard area allowed, was not in any way complicated. There is plenty of track, it is true, both Two-Rail and Three-Rail, but the course of each circuit was kept as simple as possible. In this way members were able to operate their train service in a smooth and efficient manner, with none of the time wasted by the delays that can be so frustrating to visitors viewing a layout as well as to the operators themselves. Clearly this sort of thing can be of benefit on the average home railway, too. As I think you will agree, most of the systems that have been dealt with in these pages have been arranged with their track layouts on relatively simple lines.

"M.M." reader S. F. Page has provided this "snowstorm" scene taken on his Hornby-Dublo Two-Rail layout. In the foreground empty stock for two different trains is being dealt with, while over the wall from the station the 4–6–2 "Golden Fleece" is climbing an incline with a Pullman train.