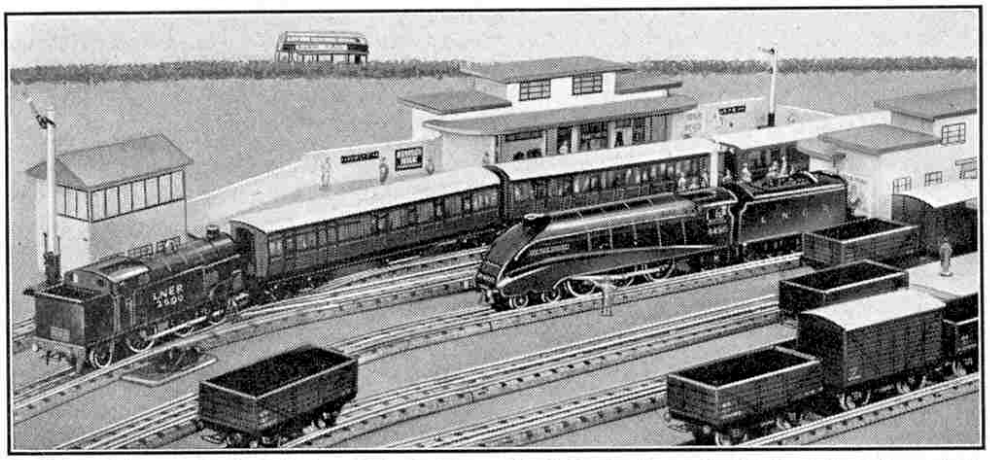
Fun with Hornby-Dublo Trains

The Fascination of Control

LAST month we gave a general survey of the Hornby-Dublo Railway System and of its various components. This month we make suggestions as to the various operations that can be carried out as a result of the special features of the System.

The perfect control that is afforded with the Electric Train Sets makes possible some most fascinating working; the engines can be made to behave exactly as if there were enginemen in charge on their footplates, for they are instantly responsive to every movement of the Controller handle. The laying of the track is easy, and the connections between the power supply—whether Dublo Transformer or accumulator—and the Controller and track, are simply made.

The material available in the Hornby-Dublo range enables the model railway owner to carry out some interesting train working. The components of the Passenger Train Sets, for example, both clockwork and electric, are ideal for the reproduction of L.N.E.R. express operations. The streamlined locomotives, of which "*Sir Nigel Gresley*," the subject of the Hornby-Dublo model, is the best known, are employed in general main line service and are to be seen working almost any of the more important long-distance trains. Similarly the famous teak passenger stock and the characteristic system of articulation so long familiar on the East Coast Route are splendidly reproduced in the Two-Coach Articulated Unit packed in the Sets.



Realistic working on a Hornby-Dublo layout. The Tank Locomotive is shunting the coaches into the station to form a train. The Streamlined Locomotive "Sir Nigel Gresley" that is to haul the train is in the siding.

There is also a separate Corridor Coach that forms a useful addition to the Articulated Unit in the composition of a miniature express train. This separate Coach can form part of the regular set of vehicles used for a particular service, or it can be used in addition as a through coach for some destination, to be detached at an intermediate point during the journey of the main train.

The running of Hornby-Dublo Trains is perfect, and there is a real thrill in the management of the miniature L.N.E.R. express. Almost any of the important main line trains of real practice can be represented by it, except the high-speed trains such as "*The Silver Jubilee*" that are made up of special stock. By correct management of the single handle of the Dublo Controller all the movements of the train can be regulated to reproduce exactly the behaviour of real trains. Let us follow in imagination the running of a Hornby-Dublo express.

We will assume that the coaches are already alongside the platform of the station. The station is the scene of animated bustle as the Hornby-Dublo railwaymen go about their work and attend generally to the wants of the miniature passengers who are selecting their compartments and getting settled for the journey. The locomotive that is to take the train, No. 4498 "*Sir Nigel Gresley*," is, we will suppose, waiting in a siding near the station. When all is ready it can be brought gently on to the main line, feeling its way just as the real locomotives do when they are moving slowly. At a touch of the Controller handle the engine is stopped and then reversed in order to back slowly into the station. The operation of coupling up, which in real practice always excites interest among those on the platform, is a simple process owing to the certainty with which the automatic couplings fitted to Hornby-Dublo stock engage with one another.

At last the departure time is near, and at the appointed moment the train moves off in a remarkably realistic manner, the movement of the engine suggesting strongly the characteristic getaway of the real streamliners. Once the train is under way, speed can be varied according to the wishes of the operator. The train can be kept moving moderately at first, as if the engine were climbing as the real L.N.E.R. trains have to do when leaving King's Cross. Then it can be speeded up, and again slowed down, exactly as required. Its passage round certain curves may be made gently, and stations can be passed slowly just as if the train were obeying speed restrictions such as are encountered on a real journey. These variations in speed that are effected at a touch of the Controller handle make us realise the thrill of perfect control; it is most exciting, too, to watch the train dashing through a station or plunging into one of the Hornby-Dublo Tunnels and suddenly emerging at the other end.

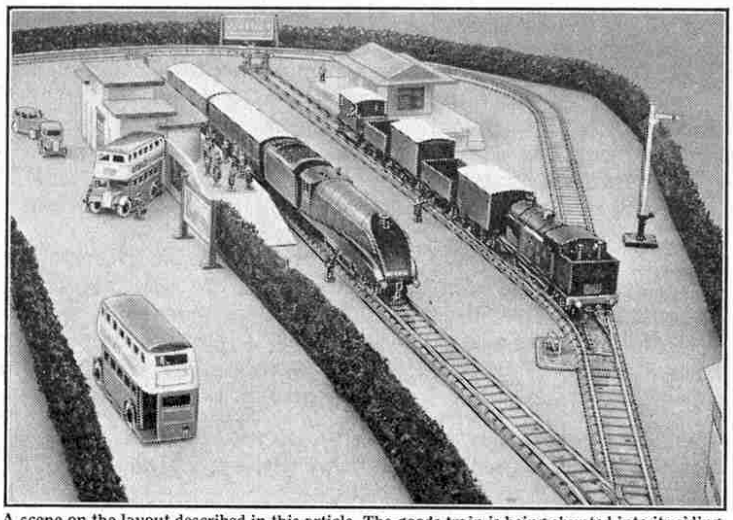
Long non-stop runs can be arranged, but it is more interesting from the operating point of view to run trains that make one or two stops during their journeys. The splendid speed regulation that is afforded makes it possible to retard the train gradually and to bring it alongside the platform with the uncanny precision that seems to be second nature to most real engine drivers. The Hornby-Dublo main line Station will accommodate the coaches of a three-coach train alongside its platform.

Fun with Hornby-Dublo Clockwork Trains

Running Operations on a Simple Layout

LAST month we dealt with the running of Hornby-Dublo Electric Trains, and described typical operations made possible by their remarkably efficient and positive system of Remote Control. This month we consider the running of Hornby-Dublo Clockwork Trains, and in order to show what fun can be obtained we illustrate on this page a specimen layout, the rails of which occupy a space 6 ft. by 3 ft., and describe typical operations that can be carried out on it with passenger and goods trains.

The layout is an extension of the oval system of rails contained in the Hornby-Dublo Train Sets, to which points and other rails have been added. The main line is oval in form, and has a running loop laid parallel to one side of the oval. From the opposite side two dead-end branch lines turn off inside the main track, and as shown in the upper illustration these can serve a standard Main Line Station and a Goods Depot respectively. Additional stations can be provided alongside the main line, but the exact arrangement of these can be left to the individual model railway owner. The double track formed by the main and loop lines, for instance, could be made to serve a double-road station made up of two Main Line Stations, or a Main Line Station and an Island Platform. Alternatively the loop road need not serve a platform, but can be used simply as a passing loop, or for running-round purposes. The addition of a station outside the track will increase the width of the space required by five inches.



A scene on the layout described in this article. The goods train is being shunted into its siding, in order to clear the main line for the running of the express, which is ready to leave the Main Line Station in the centre of the layout.

In the series of operations to be described we will assume that we are fortunate enough to possess two trains, one passenger and one goods, made up as shown in the upper illustration. The braking and reversing of Hornby-Dublo Clockwork Locomotives is performed by means of levers, which project through the cab roof in the case of the streamlined express locomotive "*Sir Nigel Gresley*," and are found in the bunker of the Tank Locomotive. It is very good fun, however, to see if we can make our clockwork engines stop just where we want them to, without having to touch them to apply the brake. On a given layout it is possible after a certain amount of experimenting to arrange this with great accuracy by varying the number of turns of the key that are given to the engines. Actually, as each twist of the hand when winding moves the key through half a revolution only, it would be more correct to refer to half-turns.

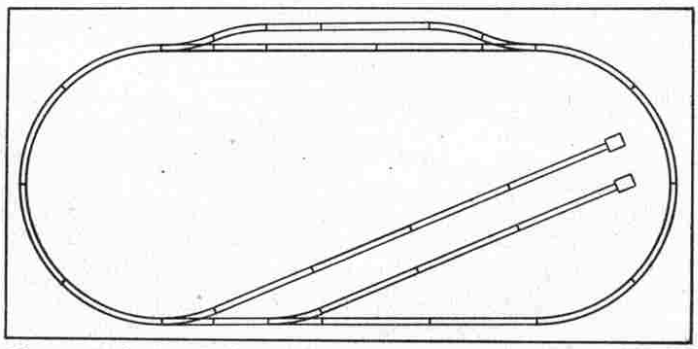


Diagram showing how the layout referred to is made up. The rails only are shown, as the positions of the accessories can be left to individual choice.

We will assume that at the commencement of operations our passenger train, consisting of a Two-Coach Articulated Unit, is standing alongside the terminal station platform, with the locomotive already attached. Similarly the goods train, consisting of an 0–6–2 Tank, two Wagons, two Vans and a Brake Van, is in the goods road alongside the Goods Depot previously referred to. The first train movement can be run by the express from the terminus to the passing station. If we give the locomotive 11 or 12 half-turns of the key, assuming that it is unwound at the start, we will find that it will leave the terminus and make three full circuits of the track. It can then be diverted into the loop road if this is served by a platform, or it can be run straight into a stop on the parallel track.

Possibly the locomotive will run a little too far. In that case the run should be made again, giving the motor from an unwound state a little less than the number of half-turns of the key given on the first run. For instance if 12 half-turns prove too much it is not a bad plan to count the "clicks" of the ratchet after the eleventh half-turn; if "11 and two clicks" is not enough, then an additional "click" on the next run will probably be just right. Judgment must be exercised as to the exact point at which to stop winding, but after a little experience it is not difficult to give just the right amount of "wind."

While the express is at rest we can wind up the locomotive of the goods train and despatch it for a trip round the main line. We must not forget to set the points at each end of the loop road, as one or other of the tracks is occupied by the passenger train. With about the same number of turns of the key as we gave the passenger locomotive, the goods train will run from the siding, make three circuits of the track, and finally come to rest on the loop. The goods train can now be left refuged while the passenger train proceeds on its way. This train can stop at the intermediate station after one, two or three circuits, the number of turns of the key being varied according to requirements.

It is now the turn of the passenger train to wait at the station. We can therefore despatch the goods train, but in order to avoid delay to the express we will imagine that the goods train is bound for the goods yard. If we wind the Tank Locomotive to the extent of two half-turns of the key and three "clicks" of the ratchet the train will run forward round the main line until it is just past the points leading to the goods road. On reversing it will be found that the locomotive still has sufficient energy to propel the train into the siding. The express can now be despatched as before. When it has reached the end of its run we can uncouple the Tank Locomotive from the wagons in the siding, and if we then give it just over two half-turns of the key it can be run round the track to couple on to the rear of the passenger train. After coupling up, the engine is reversed and then the express locomotive is reversed also. The two engines between them, without any further winding, will move the train out backward from alongside the platform round the main line until the points leading to the inner station are reached.

The Tank Locomotive can be used in this way, as it adds to the variety of operations, and it is not correct in any case even for empty passenger trains to be backed over considerable distances along the main line. The Tank Locomotive by now will probably be run down, but after being detached from the train the slightest amount of "wind" will be sufficient to carry the engine into the goods siding again. The passenger locomotive can then be made to back its train alongside the platform of the inner station once more in order to commence a further round of duty. For this purpose it is only necessary to turn the key for about three "clicks" of the ratchet.

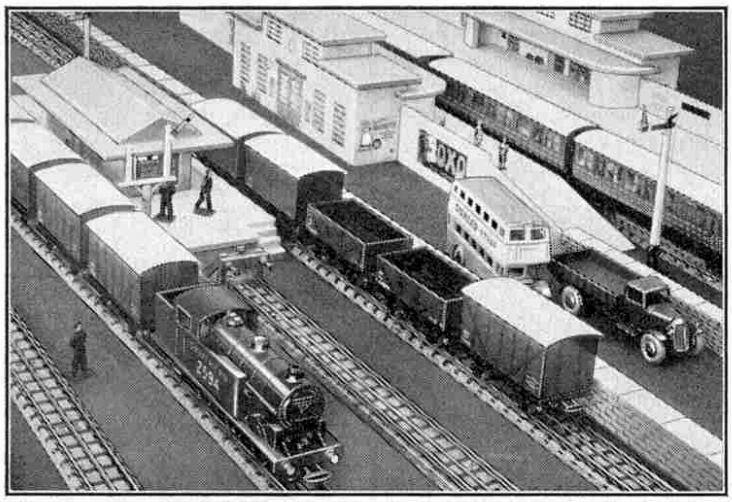
The trains are now in the same positions as they were when we commenced operations. A great deal more variety is possible than the necessarily simple operations that have been described in this article. Individual Hornby-Dublo Train owners will all have their own favourite schemes and we should like to hear about them.

Building Up a Perfect Layout

How to Use Hornby-Dublo Accessories

ALTHOUGH the Hornby-Dublo Railway System has been available such a short time it has already been received with the greatest enthusiasm as the most perfect table railway in existence. Everything connected with it, from the most impressive streamlined locomotive to the smallest accessory, is built to scale besides being very attractive in appearance and perfect in workmanship. The essential items are already available, so that running operations to delight the heart of every model railway enthusiast can be carried on, and other rolling stock and accessories are to be added to make up a realistic and comprehensive system.

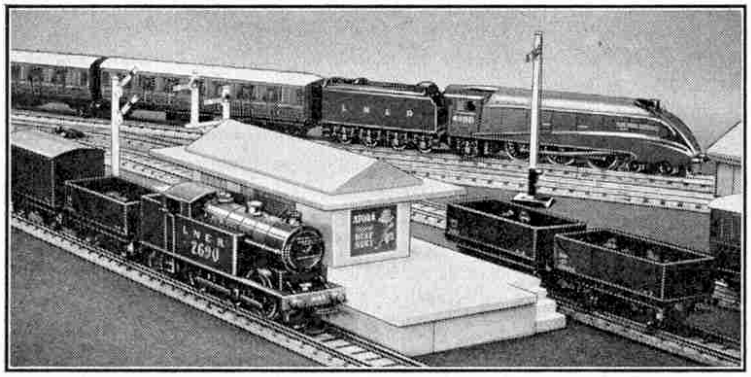
A miniature railway must have a complete set of accessories if it is to look real and to provide for proper operations. This has been kept in mind in planning the Hornby-Dublo railway, and exactly what is required is being provided. Probably the most important single accessory is a station. The Hornby-Dublo Main Line Station is made of wood and is splendidly built in fine modern style, with handsome station buildings and a flat roof. Its length is 24 in., so that it can accommodate a train of three coaches. Well-known national advertisements adorn its exterior, like that of a real station, and its appearance is further improved by the many details shown on it, including a futuristic clock face.



A busy scene on a Hornby-Dublo railway, showing the Main Line Station, the Goods Depot and Buffer Stops in suitable and realistic positions. The junction signals in the illustrations on this page are Dinky Toys.

The owner of this station can choose one of four names for it to suit the particular railway on which his miniature line is modelled. These names are "Berwick," "Penrith," "Truro" and "Ashford," representing the L.N.E.R., L.M.S., G.W.R., and S.R. respectively, and they are provided on printed gummed slips ready to put in position. Whatever name is chosen, the Station fits splendidly into any Hornby-Dublo layout, to which it gives a workmanlike and up-to-date appearance, as the upper illustration on this page shows.

The Hornby-Dublo Island Platform also is built of wood in similar style to the Main Line Station. It has an open shelter consisting of semi-circular ends supporting a flat roof, four back-to-back seats are provided, and replicas of well-known advertisements complete a very handsome structure. This Platform can be used separately between two tracks, or it can be employed very effectively in conjunction with the Main Line Station, to form a large station. Its length is the same as that of the Main Line Station.



The Hornby-Dublo Goods Depot with a train passing by it. This accessory can be placed between two tracks, as illustrated, or used alongside a single track.

Two other items in the range are made entirely of wood—the neat Signal Cabin and the useful Goods Depot. The Signal Cabin is a typical example of one of the medium-size cabins used in actual practice, and gummed slips printed with the names "Berwick," "Penrith," "Truro" and "Ashford" are provided with it so that it can be given the same name as the Main Line Station. The Cabin is as modern in style as the accessories already described. It has printed on it the wide windows invariably provided in the upper storey for the signalman, and there are also the lower windows and a door for the benefit of the maintenance staff.

The Goods Depot is 12 in. long, and no Hornby-Dublo goods yard would be complete without one. In it there is ample room for consignments of various kinds of goods, and steps are provided at each end so that the staff can pass from building to track and back again without difficulty. The Depot is decorated with interesting and realistic details, and the usual advertisements make it a most realistic accessory.

It is scarcely necessary to point out to Hornby-Dublo enthusiasts how important is the signalling of a system. The Hornby-Dublo Signals are all of the latest upper quadrant type, and include a single-arm "Home," a single-arm "Distant," and a combined "Home" and "Distant" Double-Arm Signal. They can be used to fulfil most model railway purposes, and other signals such as the junction type will follow eventually.

The present Hornby-Dublo Signals are 4⅜ in. high and their bases and posts are die-cast in one piece. The posts are realistically tapered and finished off with a smart cap at the top, giving them a very pleasing appearance; and the lamp case and bracket also are included in the casting. The counterweighted lever at the base of single arm "Home" and "Distant" Signals operates the arm, which is splendidly tinprinted in correct colours, red with a white band for "home" arms and yellow with a black band for "distants." Two levers are of course fitted to the Double Arm Signals. All these Signals work perfectly, the arms moving freely, yet stopping in the position to which they are set.

Buffer Stops are essentially track pieces, but for the purpose of this article they will be described under the heading of accessories. Those in the Hornby-Dublo System are particularly realistic models of a type seen on all railways. The base, upright portion, warning lamp and supports are die-cast in one piece, and the crossbeam and buffer stocks are a separate casting riveted in place. These models are grey, with red crossbeam and stocks. They are secured to the track by means of a special spring arrangement, which fits into slots provided at one end of the printed metal bases of the Hornby-Dublo Straight Rails, and they cannot become detached from the track when rolling stock comes in contact with them. It is important to note that the springs engage from inside.

The need for tunnels is met by two useful Hornby-Dublo Accessories in the D1 Short Tunnel and the D2 Long Tunnel. The smaller Tunnel can be used on both curved and straight track, but the larger one is suitable only for straight track. Both are built up and finished off in the popular style adopted for the well-known Gauge O Tunnels.

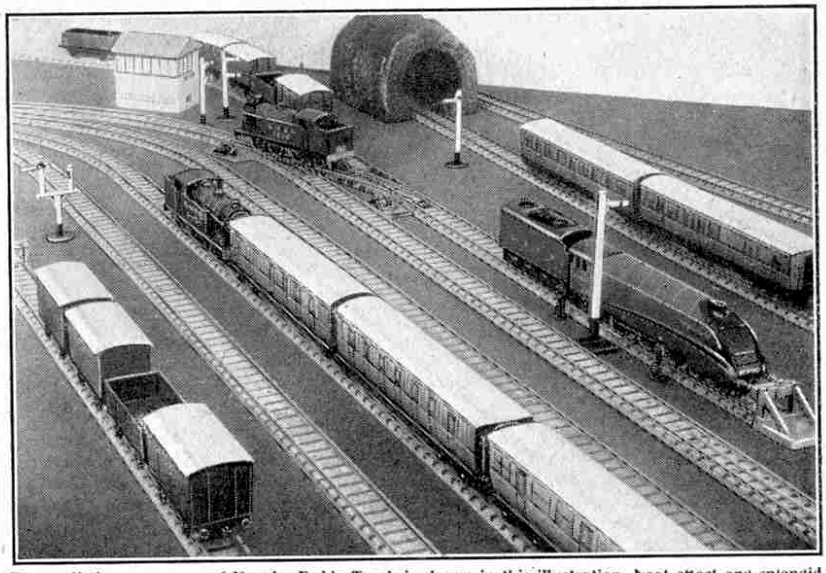
The remaining accessories of the Series are delightful miniature railway workers and passengers specially designed for the new system. These are exceptionally realistic models. The miniature Staff consists of six figures, a Driver, Porter, Ticket Collector, Stationmaster, Guard and Shunter. The interesting selection of Hornby-Dublo Passengers add life and realism to a station scene.

Track for Hornby-Dublo Trains

How to Develop Realistic Layouts

THE first requirement of a miniature railway system is a strong and realistic track, of a design that allows good layouts to be developed and of accurate construction to afford smooth and speedy running. The track provided in the Hornby-Dublo Railway system meets these requirements, and has other special qualities that make it the perfect track for running Hornby-Dublo Trains, both electric and clockwork. In this article we review these various features, and show how they render possible the development of interesting and railway-like systems.

Hornby-Dublo track consists of solid drawn brass running rails of neat and realistic section. These ensure good electrical contact for electric trains, and their truth and smoothness help materially to obtain the perfect running characteristic of Hornby-Dublo Locomotives, both electric and clockwork, and of the associated rolling stock. The actual rails are mounted on a pressed metal base that reproduces exactly the appearance of the well-ballasted road bed of real practice. The neat result that is secured by this method of construction is well shown in the accompanying photographs. The "sleepers" that form part of the tinprinted design of the base are uniformly spaced and thus give exactly the close-pitched appearance of the full-size timbers.



The realistic appearance of Hornby-Dublo Track is shown in this illustration. Neat effect and splendid running qualities are features of this ideal "permanent way" for Hornby-Dublo Trains.

A point that is of special importance where the railway forms a temporary layout on a table is that the lower edges of the base of each section are turned over so that the danger of marking or scratching the table is remote. Those who require to screw their rails down to a baseboard for a permanent system can easily do so, for the base of each piece is provided with holes for this purpose. This saves time in assembly, and also does away with the risk of distorting or spoiling the appearance of the track by punching or drilling the sections at home.

The running rails are kept in alignment at the joints by miniature fishplates attached to alternate rails so that the track sections can be joined up whichever way round they happen to be put together. Similarly it is easy to form reverse curves on layouts that require them. The fishplates are anchored to the base of the rails, to which they are attached so that they cannot fall off and get lost, or stay fixed on the wrong rail when the track is being taken up. Further security is obtained by the use of special spring clips fitted at each end of every rail section. These interlock in such a manner that individual rail sections cannot come apart when they are assembled in a layout; and yet the parting of the pieces can be performed without difficulty when required. The "Permanent Way Department" on a Hornby-Dublo railway in fact have an easy time, for there is no danger of "the road" opening and leaving a gap which will derail the next train that comes along!

The spring clips just referred to also serve a special purpose on Hornby-Dublo electric layouts, for they are connected to the centre rail and provide an efficient and reliable means of securing good electric contact between adjacent rail sections. The centre rail itself, which is insulated from the metal base and from the running rails, has no fishplate. It is formed of steel and makes a perfect contact for the collector shoes of Hornby-Dublo Electric Locomotives. The centre rail is arranged on the "all-level" system, and is strongly mounted on special insulating pieces.

As far as the making up of layouts is concerned there is no difference in geometrical design between the Hornby-Dublo Rails for electric and for clockwork layouts. The only difference that occurs is that in electric layouts one of the curves must be the special EDAT Curved Terminal Rail, which is provided with terminals by means of which the current supply from the Controller is fed to the track. Layouts consisting of two electrically separate tracks, each connected to a separate Controller, require two Terminal Rails, and so on.

This difference in detail between the requirements for electric and clockwork layouts of similar design is shown in the lists of rails required for the different formations given in the special folder "*Suggestions for Hornby-Dublo Rail Layouts*" that has been prepared. No owner of a Hornby-Dublo Train Set should be without a copy, which can be obtained free from any Meccano dealer.

The main components of Hornby-Dublo track are Curved Rails, Straight Rails and Points. The standard radius adopted for the Curved Rails and for the curved arms of the Points is 15 in., measured from the centre of the circle to the centre line of the track. A space having a minimum width of 2 ft. 10 in. is therefore necessary for a Hornby-Dublo layout in order to allow a sufficient margin

Loads for Hornby-Dublo Goods Trains

Fun with Miniature Freights

ONE of the first instincts of the model railway owner is to provide actual loads for his goods wagons to carry. The wagons themselves may be realistic enough, but the railway will never pay its way if they are run about empty all the time! Finding and making up suitable loads for Hornby-Dublo goods trains is great fun. Goods and materials of many kinds can be placed in the Open Wagons D1, but the Covered Vans naturally cannot be loaded up. Loads that would be carried in such vans in real practice can be placed on the platform of the Goods Depot, however, where they will look as if they are ready for conveyance by train or as if they have just been unloaded.

Freight for Hornby-Dublo vehicles must be in keeping with the small size of the wagons. It also must be light, especially on a clockwork-operated line, and on Hornby-Dublo railways that are of the table-top character it must be clean and of a "tidy" kind.

Probably the first material that will suggest itself as a load is the Hornby Coal. Although this is somewhat large it has the right "coaly" appearance, and is both light and clean. Several Open Wagons loaded with it can form part of a mixed goods train. Alternatively the running of a complete train of Coal can be a regular feature of operations, and will imitate the operation of the real coal trains that are such a prominent feature of the heavy freight traffic on British railways.

A realistic scene on a Hornby-Dublo layout, showing a "quarry" served by the railway. The "stone" is actually coarse sand that is loaded in the Open Wagons in the manner described on this page.

In order to give variety to the traffic on Hornby-Dublo layouts various kinds of what we may term "prepared" loads can be devised by enthusiastic "Goods Managers." A convenient method of arranging such loads is to prepare a series of cardboard "load supports" shaped like box lids to fit into the wagon bodies. The tops of these should come very near the top of the wagon, and their upper surfaces should be coated with glue or Seccotine, on which a layer of the material selected should be allowed to set in position. Hornby Coal can be carried in this way if preferred; it will save the loading of individual Wagons each time a coal train is required to be run.

Rice can be used to represent granite or limestone, and coarse sand also gives a realistic appearance. Dried peas are another household commodity that can be employed quite well. A selection of different "loads" can be made up and kept in a box reserved for the purpose. Here they will not be liable to damage, and particles of the different substances will not be shed on to the line or the surrounding premises.

Another load that can be prepared makes use of dead matchsticks to represent a consignment of sawn timber beams. When carried in open wagons these are often loaded in a sloping position, the lowest layer of the beams resting on and projecting slightly over the wagon end. The easiest way to secure this effect is first to cut a rectangle of cardboard of the internal width of the wagon and long enough to stretch from the floor at one end, up to the top of the other end, and then vertically down to the floor again when bent to shape. This forms a sloping platform of just the right height on which to support the wood. For this a number of matchsticks should be trimmed to equal lengths. The first layer of the load is then stuck lengthways on the cardboard support, the match sticks, or "beams" as they now are, projecting just about an eighth of an inch beyond the high end. When these have set another layer can be stuck on with the outer ends of the beams further in than those of the first lot, and this can be continued until several layers have been fixed, with the inner ends of the last lot touching the end of the wagon towards which the load slopes down. If this is carefully done the finished load is most realistic.

Much can be done by the ingenious owner of a Hornby-Dublo railway with various odds and ends that can be found at home. Small round tins or even pill boxes can be made to look like cable drums. Cubes or rectangular blocks of wood can be sawn, and painted if necessary, to represent large blocks of stone. All these form suitable loads for the Open Wagons.

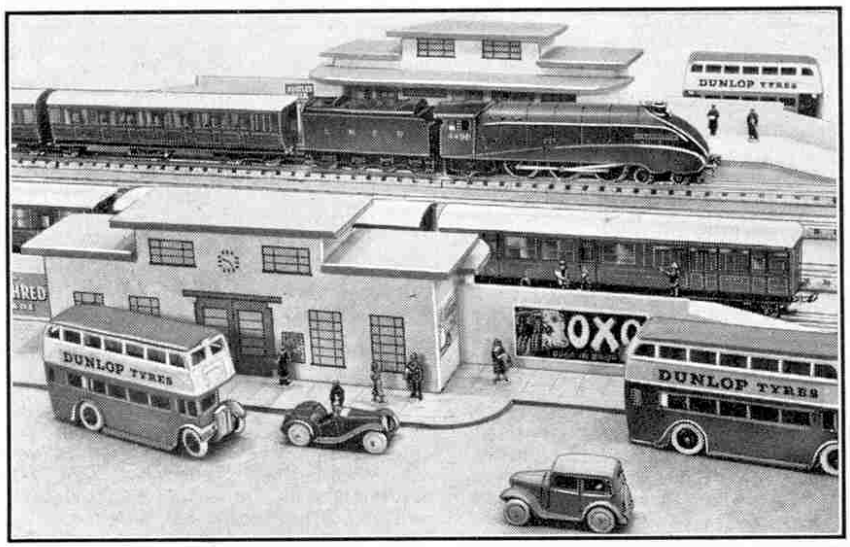
For use on the platform, as loads supposedly conveyed by the Covered Vans, small corks can be trimmed to look like casks or kegs. Pieces of plain wood can be cut to various sizes to look like cases of different kinds. They can be marked with pencil lines imitating the boards making up the cases, and can be decorated with ink letters and signs representing traders' marks and so on. Some of these can be tied with thread as if roped up. It is possible too to construct miniature crates of match sticks, but this task requires considerable patience. Each side of a "crate" should be assembled separately, after which the sides can be stuck together. Before the last side is secured, however, the "crate" should be stuffed with tissue paper to represent the packing of some article.

Additions to Hornby-Dublo Layouts

Fun with Accessories and Dinky Toys

IN previous issues we have referred to the running of Hornby-Dublo Trains, and attention also has been given to accessories such as Stations and to the layout possibilities of Hornby-Dublo Track. It is not enough to run our trains to and fro over the line, however, or even to provide such loads as may appeal to us in the open wagons of our goods trains. A railway on which this is done may still lack life, but fortunately we can provide it by using the standard Series of Hornby-Dublo miniature figures. These are perfectly modelled and are coloured in the most realistic manner and, as the figures in the illustrations on this and the following page show, the different attitudes in which they have been depicted are very true to life. These photographs also will suggest likely uses for these excellent figures to keen Hornby-Dublo railway operators.

Actually there are two Sets of these miniatures, each of which contains six figures. One Set consists of miniature railwaymen, and the other is made up of passengers. It is interesting to note that, although the bases necessary to support these tiny folk are extremely neat, they are sufficiently substantial to prevent the figures from being knocked over easily. This is a very good feature, for nothing is more annoying than to complete the setting out of a realistic scene, and then to have half of the figures in it collapsing because of an accidental knock!



Various Dinky Toys components can be used effectively on a Hornby-Dublo Railway System. In this illustration the Pavement Set, Double Decker Buses and Small Cars add to the realism of the scene.

Most important of the figures contained in the Set of miniature Railway Staff D1 is the Stationmaster, who has a smart appearance in his service cap and long coat. He is holding some papers in his hand, which can be taken to be the usual working timetables or possibly some special instructions, according to circumstances. His usual position will be on the station platform, where he can observe the arrival and departure of trains and attend generally to the working of the station. It is also quite fitting to use him to supervise operations at the goods depot.

Most workmanlike is the Porter, who is wearing the usual sleeved waistcoat of his grade. He is evidently fond of his work, for he is modelled walking briskly along carrying a bag in each hand! None of the passengers will be able to complain of the slackness of porters at any station on a Hornby-Dublo railway.

The Ticket Collector is more life like than the usual models of this kind. He has his left hand outstretched, as if in the act of taking a ticket and the obvious position for him is on the platform by the exit from the station. His outstretched hand makes him suitable for placing in other positions, however, and owners of Hornby-Dublo layouts who exercise a little imagination will be able to find plenty of jobs for him to do.

The Guard is neatly uniformed and is in the act of giving the "*Right away*" by means of the green flag, which he is waving. He gives a most realistic aspect to the platform at the moment of departure of a train. He cannot of course travel by the train, nor is it really correct to leave him on the platform after the train has gone. This creates a difficulty that most model railwaymen will have come up against. Some solve the problem by removing the Guard from the platform and holding him in the hand, or at least putting him somewhere out of sight until the next train arrives. This is easy enough to do on a simple layout with only one station but may be awkward for a single-handed operator on a large system.

The Shunter is an unusual figure who will be perfectly at home in the goods yard. He is standing with his shunting pole held in one hand, and with the other hand and arm outstretched as if signalling to the driver. He is wearing a long service mackintosh with the collar turned up, and is evidently ready to carry out his rather rough duties under the worst weather conditions.

Finally there is the Locomotive Driver, a typical figure in overall coat and trousers, the coat being modelled as if buttoned at the top only, in the manner affected by most enginemen. He can stand on the platform as if waiting for the Guard's signal, or can be placed alongside his engine during a stop as if he is just looking round it like the real enginemen often do. Again he can be used in the engine sidings and here his duties can be varied, according to requirements.

Having staffed our railway and provided the trains, we have now to consider our passengers. The Set of miniature Passengers D2 consists of six figures, three of whom are men and three women. It is scarcely necessary to go into details concerning them as they are typical of the people to be found every day on station platforms.

Our railway must look after the safety of its passenger and freight traffic and a system of signals therefore is

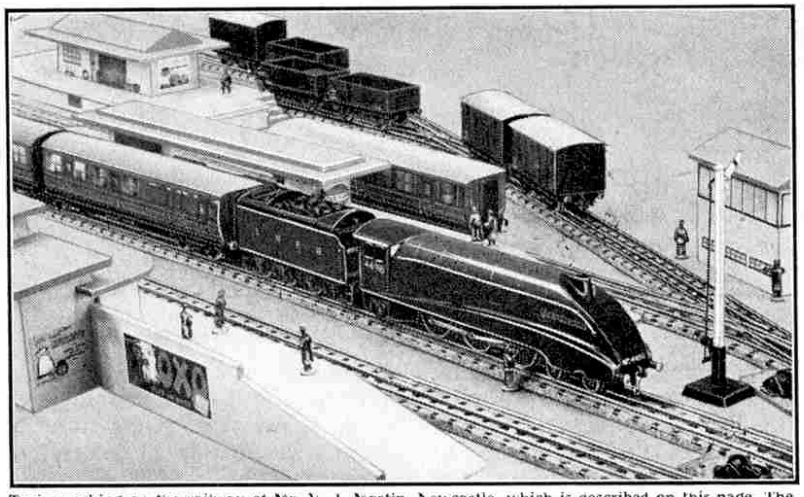
How We Run Our Hornby-Dublo Railway

A Fascinating Electric Layout

By V. J. Martin

WHEN the Hornby-Dublo Miniature Railway System was announced, we studied its details carefully, as we did those of other makes, and it was unanimously decided to adopt Hornby-Dublo equipment for the electric line we had in mind because of the ease of control it affords, the power and smooth running of the electric engines, and the realistic finish of every part. We acquired a Hornby-Dublo Passenger Set and Goods Set, together with a few extra Wagons, Vans and Corridor Coaches.

Then we planned a provisional layout and worked out on paper the proportions of various standard formations, such as a "run-round" loop for use in the station, the clearance between tracks for an Island Platform, and the space required for a crossover. This is worth doing beforehand, as buying several complete sets generally leaves you with more curves than are necessary and too few straight sections.



Train working on the railway of Mr. V. J. Martin, Newcastle, which is described on this page. The express train, with the streamlined locomotive "Sir Nigel Gresley" at its head, is standing alongside the island platform forming part of the main station.

We noted, among other things, that the Hornby-Dublo Points exactly correspond to a Curved Half Rail and a Straight Half Rail. Out of this arises the ease with which a crossover can be fitted in almost anywhere in the track. One simply connects either two left-hand Points or two right-hand Points, adds two Straight Half Rails, and there it is. We noted too that every set of Points requires one Curved Half Rail to bring the curved branch line parallel to the main line, and various other track requirements for different purposes. Armed with this information we purchased as much track as we could afford and began to develop our layout.

It will be seen from the diagram on this page that there is a continuous main line, which is doubled in the principal station. This provides a run-round loop as well as making the station look more realistic. There is also a goods yard, and a branch line terminus with its own run-round loop. Each portion could of course be elaborated as desired. The gaps in the track in the diagram indicate the insulating gaps in the electric circuit, and considerable thought has been given to the placing of these with a view to convenience of running and control. These breaks are easily made by slipping a piece of paper between the flat centre rail contacts when joining up the rails; the rail is not altered in any way.

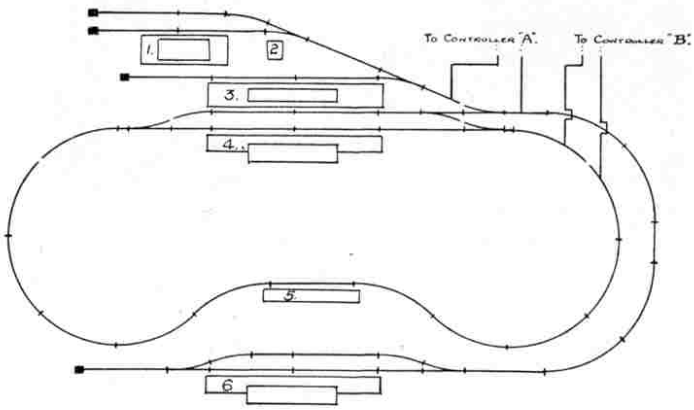


Diagram of the layout, showing the insulating gaps. The numbers refer to various buildings and accessories as follows: 1. Goods depot; 2. Water tank; 3. Island platform; 4. Main platform; 5. Wayside halt; 6. Branch line station.

The control panel carries two Dublo Transformers No. 1, and two Controllers. Each Controller is connected to two miniature tumbler switches, so that two sections of the main line, the branch line, and the goods yard can each be controlled individually. The only thing we have to remember is not to allow two engines together on one section, but this is closely parallel to the block system in real practice. In any case the load of two engines will cause the circuit breaker on the Controller to trip, so that we shall never have end-on collisions.

A simple working programme can be evolved on the following lines. We generally start with the Two-Coach Articulated Unit alongside the Island Platform and the A4 "Pacific" engine "*Sir Nigel Gresley*" with "steam up" next to the main platform; this is because we have as yet no engine sheds. The ordinary Corridor Coaches are at the branch station, the Vans and Wagons are in the goods yard and the tank engine is by the water tank.

The "Pacific," which is heading to the left in the diagram, is moved forward and then backed on to the Articulated Unit standing at the Island Platform. As long as the 0–6–2 tank engine is beyond the goods yard points, where the insulating gap is marked with a Signal, and the yard circuit is switched off, the express engine can be worked over any part of the branch line circuit as required by means of the second Controller. The express pulls out for the run from say "Edinburgh" to "Newcastle," and the points are set for a continuous run in a counter clockwise direction round the main line section.

The goods yard is now switched in and the tank engine runs round to "Hexham." It brings the Corridor Coaches back to the main station as a local suburban train, stopping at the Island Platform. One of these Coaches is a through carriage and will have to be attached to the express, which during this time has been running round the main line on its journey from "Edinburgh." Now our tank engine is at the wrong end of the train, and we must use the main line to run round. A "request stop" is made of the express at the wayside halt, such as happens at Drem Junction for North Berwick on the L.N.E.R.

While the train is stationary the "country" section of the main line is switched out, and then we can use the station section for our tank engine, provided we never run beyond the breaks in the circuit just outside the station. This also is marked with a Signal as explained before. One Corridor Coach is pulled away and shunted into the other side of the Island Platform for use later, and the engine is brought behind the remaining through carriage.

Now the express is off again, next stop "Newcastle," where the through carriage has to be picked up. It pulls in on the main platform side of the station. Having disembarked passengers who wish to catch the local out of "Hexham," it draws forward till the engine is beyond the signal post, and therefore beyond the station circuit; in other words it is in contact with the country section of the main line, which is at once switched off.

While the passengers bustle over the footbridge to reach the carriage on the far side of the platform, the tank engine draws the through coach out of the station and then gently propels it on to the rear of the express. It then moves away through the station and reverses on to the coach standing behind the island platform. The express races off to the south and the tank runs out to the branch with its passenger vehicle. On its return it can then be engaged in marshalling a goods train in the yard.

After a sufficient length of main line run, the express completes its journey by running into the station.

Care of Hornby-Dublo Trains

Oiling and Adjusting Working Parts

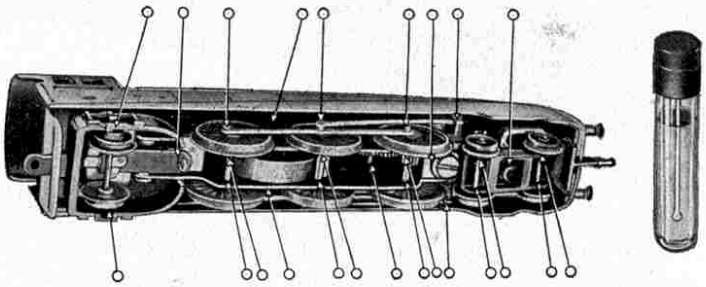
THE Hornby-Dublo System has very quickly established itself as a prime favourite with model railway enthusiasts. Its simplicity is one of its most outstanding and popular features, for there is nothing at all to go wrong with the track, and the only attention required by the rails and points is periodical cleaning to free the running surfaces from dust, or from oil that may accumulate owing to the continuous passage of wheels over them. This is best done by rubbing them gently with a dry clean cloth, which removes all trace of oil and restores the rails immediately to satisfactory running condition. An interesting practical note is that points should be wiped in a trailing direction, for the point blades may become bent through becoming caught in a cloth rubbed over them the opposite way.

It is always advisable to examine points from time to time in order to make certain that the blades fit snugly up against the stock rails, and when they are being operated the lever must be moved through the entire length of its travel and pressed hard against the base, both when opening and closing the points. Through the locking action of the lever mechanism this secures the switch blades firmly in position, so that it is impossible for them to move when a train is passing over them and to cause a derailment.

In the case of electric track care must be taken to ensure that during assembly the brass connector clips do not accidentally slip between the insulating material and the tinprinted base. This would cause a short circuit that could be a very troublesome affair, especially if the whole track had been assembled before the offending clip was discovered. The circuit breaker included in the Dublo Controller would prevent any damage, but the inconvenience would be annoying. Electrical connections should be made to the track by means of a Terminal Rail, and they should be made firmly so that there is good electrical contact.

It is important to see that the wiring from the Transformer to the Controller and thence to the track is in accordance with the instructions packed with these items. The details marked on the panels of the Transformer and Controller form useful guides.

It is surprising how many enthusiasts consider the oiling of a locomotive and train as of no importance. Some have been known to complain of their engines running badly when the trouble has been traceable only to lack of oil. When it is desired to give attention to the mechanism of one of the Hornby-Dublo Electric Locomotives, it is necessary to remove the housing, but this is a very simple process. All that is required is to remove the nut behind the buffer beam at the front of the engine underneath the frame with the aid of the special spanner that is provided with each locomotive for this purpose. When the nut is removed, the motor can be pulled away from the housing at the front end until the hole in the motor chassis casting is clear of the bolt holding it in position, and the next move is to slide the whole motor forward until it is entirely free of the housing. All parts of the motor are then accessible for the purpose of lubricatio , or for any minor adjustments that may be found necessary.

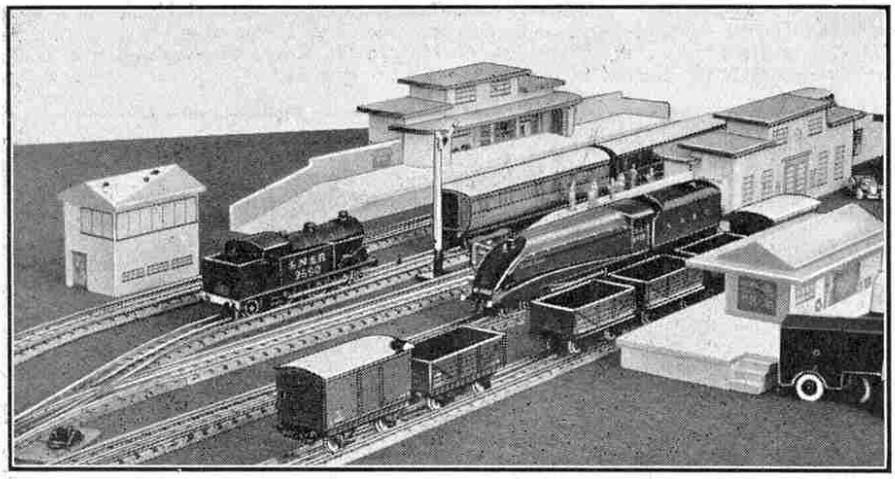


The circles in this underneath view of a Hornby-Dublo Clockwork Engine show where it should be oiled after about 10 hours' running time.

All moving parts should most definitely be lubricated, and with each locomotive is packed a special oiling chart for clockwork and electric engines. This has been prepared after careful experiments and testing, and should be obeyed to the letter. The chart for the DP1 Clockwork Locomotive *"Sir Nigel Gresley"* is illustrated on this page.

There are two parts of an electric mechanism that are not improved by the application of oil. These are the commutator and the brushes, both of which should be kept absolutely free from all traces of oil. The brushes are of the self-lubricating type that last for many months. The commutator should be kept scrupulously clean for continued good running. Sometimes it collects a deposit of carbon after long running, but this can be removed with the aid of a strip of fine emery paper, which must be about $\frac{1}{4}$ in. wide and should be pressed lightly on the face of the commutator while this is turned by slowly revolving the wheels of the engine in a forward direction.

A clockwork engine also requires



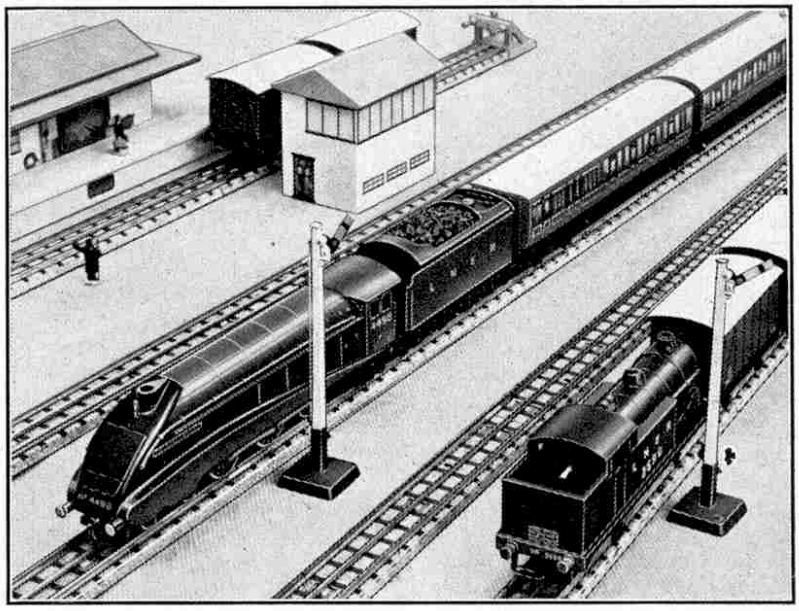
"Sir Nigel Gresley" ready to take over a train brought in from the sidings by the 0-6-2 tank engine.

Hornby-Dublo Mixed Traffic

Running Passenger and Goods Services

IN order to make the operation of a miniature railway as realistic as possible, it is necessary to work both passenger and goods trains. There is sometimes a tendency among many operators to concentrate their attention on one type of traffic only. For this practice there is no excuse on a Hornby-Dublo railway, as the variety of rolling stock and accessories available makes a well-balanced system of operations possible. This month therefore we are dealing with both passenger and goods train working in a general way, giving hints as to the realistic use of the various components.

Let us review first the Hornby-Dublo Passenger Locomotive and Train. As most model railway owners, and certainly all "*M.M.*" readers, are aware, the passenger train is handled by a magnificent model of the L.N.E.R. streamlined locomotive, No. 4498 "*Sir Nigel Gresley*," with corridor tender. It is the most perfect locomotive that has ever been produced in Gauge 00 and in its blue livery is a really thrilling sight. The real No. 4498 is famous as the hundredth Gresley "Pacific" to be placed in service on the L.N.E.R. It is the ideal express locomotive, and all the most important express duties on a Hornby-Dublo system should be performed by its splendid miniature, just as the real "A4" streamliners are the first choice on the L.N.E.R. to-day for both high-speed limited trains, and for the heavier but still fast trains.



An interesting scene on a Hornby-Dublo Railway, on which both Passenger and Goods Trains are operated, as suggested in the accompanying article.

The rolling stock available for operating with this locomotive consists of a Two-Coach Articulated Unit of the type that is used extensively by the L.N.E.R. in making up standard main line trains. The bodywork of these vehicles is really a marvel of tinprinting, as the graining that is such a feature of the varnished teak stock of the L.N.E.R. coaches is clearly reproduced. The two vehicles composing the Unit are of corridor type, one of the coaches having passenger accommodation only, and the other being a Brake Composite.

In addition to the latter Unit there is a separate First/Third Corridor Coach. It is similar in general design and construction to the coaches in the Articulated Unit, and is a most useful addition for making up an express passenger train. Actually on the L.N.E.R. a first/third corridor coach combined with a twin unit of the kind represented by these models forms the basis of many of the important main line trains.

Turning to goods trains, these are handled by a characteristic 0–6–2 Tank Locomotive, which is available in the colours of each of the four main line companies. The engines are of the same design, except that the G.W.R. model is fitted with a domeless boiler and correct type safety valve, features that are characteristic of G.W.R. locomotives.

These engines are excellent in appearance, as can be seen from the illustration on this page. A wealth of detail is included, even to such minute but nevertheless important items as boiler bands, washout plugs on the firebox, and the whistle in front of the cab. On a layout on which both passenger and goods trains are operated the Tank Locomotive can be used for passenger work when it is not employed on freight trains. For instance, it can be made to bring the coaches from the siding to the station to form a train; to add or detach any extra vehicles that may be required, or to carry out the disposal of a train at the end of a journey. It can in fact undertake in a most realistic manner all the duties that tank locomotives do in actual practice.

The rolling stock for making up goods trains represents the most up-to-date standard type of wagons and covered vans, all of which are lettered in the latest style agreed to by the four groups, in which the company's initials, the tonnage and the wagon number appear together in the left-hand corner of each wagon side. All these goods vehicles have tinplate bodywork mounted on pressure die-cast underframes that are full of detail. The Goods Brake Van is a particularly interesting model, as a separate van has been constructed for each company and each is a true-to-type design.

Enthusiasts who wish to operate combined goods and passenger services should see that their line is well supplied with accessories. For the passenger section there is the Main Line Station and Island Platform. They are constructed of wood, and will accommodate a three-coach train. The Goods Depot is of similar up-to-date form, and is a very pleasing addition to any Gauge 00 railway. Another accessory made of wood is the modern-style Signal Cabin. There are also the splendid upper quadrant type Signals, all excellent scale models and available with either "home" or "distant" semaphores.

Scenic Effects for Hornby-Dublo Railways

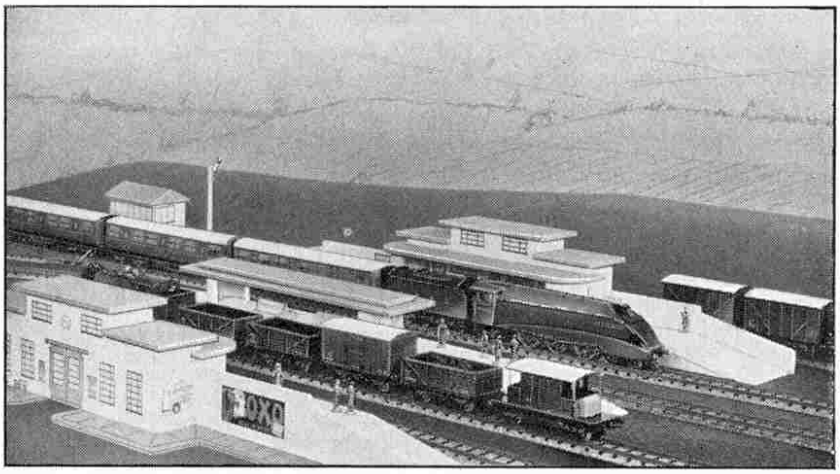
Embankments and other Accessories

THE aim of every Hornby-Dublo enthusiast is to make his railway as far as possible a miniature reproduction of the real thing, and in securing this the arrangement of suitable scenic effects is of the utmost importance. Hornby-Dublo components are wonderfully realistic scale models of real railway equipment and no effort should be spared to give them really worthy surroundings. There is no difficulty in making suitable scenery for inclusion in a layout, and any effort devoted to this side of the hobby will be well repaid by the pleasure of running trains on a railway that looks like the real thing in every respect.

Good embankments are a wonderful help in giving a miniature railway the right appearance. Every real railway has embankments, which are necessary means of ensuring the avoidance of heavy gradients, and making one for a Hornby-Dublo layout is quite a simple affair. If it can be made to carry the track across a depression of some kind it will be in accordance with real practice, but there is no reason why a raised embankment should not be used to carry the track over a road, or over another railway.

The first and most important step in building an embankment is to construct a suitable framework. This is best made of wooden strips about $\frac{1}{2}$ in. wide, as these are strong and at the same time can be shaped and assembled without much trouble. The framework should not be too uniform in shape and sufficient space should be left on top to accommodate the tracks and also to permit "walking space" at each side. Nothing looks worse than an embankment on which the tracks are laid at the extreme edge, and look as if they are going to slip down the side of the embankment at any moment. The actual construction need not be elaborate and scrap pieces of wood can be used provided they are strong and firm, for they will be hidden from view when the embankment is finished. The general outline of the framework should be made the same as that of the intended embankment.

The height of the embankment is an important point to bear in mind. This should not be made so great that the gradients leading to it are too steep if it is of the raised type. A satisfactory height is about $2\frac{3}{4}$ in. from the base of the layout, but if the embankment is to be tunnelled through, as shown in the upper illustration on the opposite page, this should be increased to about $3\frac{1}{4}$ in. The approaching gradient should be arranged so that the incline is not any steeper than 1 in 40.

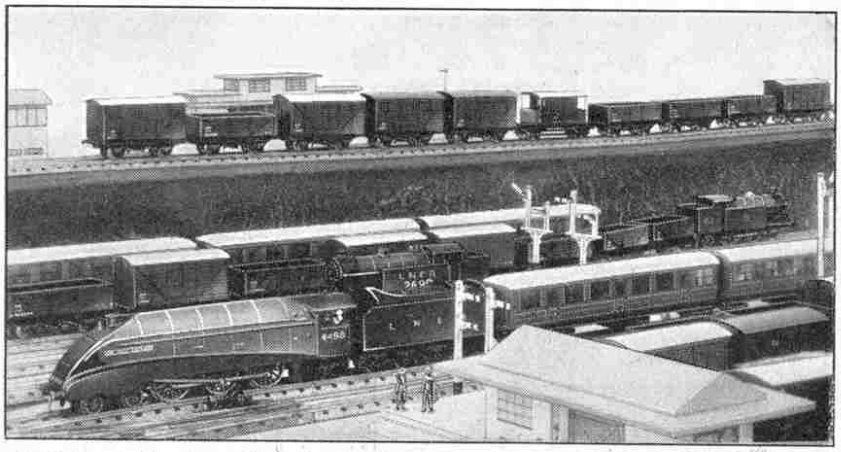


A busy scene on a Hornby-Dublo railway. The embankment is made with felt.

Next comes the covering of the framework. Many embankments have grassy slopes, and when a similar effect is aimed at in miniature the sides should be covered with pieces of old green felting. The shade of green must be carefully chosen, for too light or too dark a green would spoil the effect, and the felt should be rubbed up the wrong way when it has been fixed in place to give the proper "growing grass" effect. One or two scattered dabs of brown paint here and there improve the effect, for an uninterrupted shade is apt to appear too "clean cut."

Another method of arranging lineside hills or embankments is to make up a suitable framework of wood and to cover this over with rough brown paper. This gives a more rugged type of embankment that might be seen on lines in wilder country than that in which grassy embankments are usual. The brown paper should be crumpled and soaked in a fairly thin solution of glue or in ordinary flour paste before setting in position. The effect is really splendid when the paper is spread out and moulded to the required shape over the woodwork foundation and allowed to dry. The covering can be secured to the baseboard of the layout by means of drawing pins, which should be painted over in order to disguise them, and a few fine nails may be required to fix the paper to its wooden framework.

When scenery of this kind has been secured in position, and has set perfectly hard and dry, it should be painted. This is not a difficult



A realistic embankment on which a Hornby-Dublo track is laid. The construction of this type of embankment is described in this article.

New Hornby-Dublo Rolling Stock

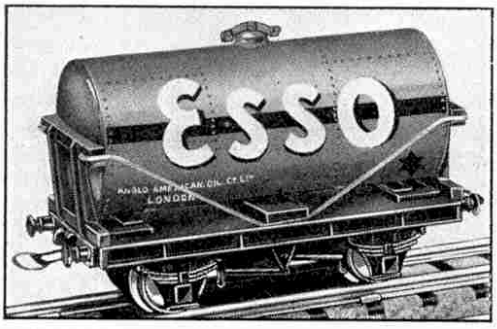
Carrying Oil, Petrol and Coal in Miniature

THE appearance of the Hornby-Dublo Railway last year caused tremendous excitement among model railway enthusiasts and since then the staff at Headquarters have been simply bombarded with enquiries. "Will new Wagons and Vans be added?" and "Will more accessories be introduced?" are the questions that are most often repeated. This article is an answer and all who are looking forward to building up their Gauge 00 railways will welcome its announcement of new rolling stock for the Hornby-Dublo range, especially as the new Tank Wagons and Coal Wagon with which it deals are only the first of many surprising and splendid introductions planned for the present year.

Tank Wagons have always ranked among the most popular models in the Hornby Gauge 0 System, and the new models illustrated on this page will be no less popular with Hornby-Dublo enthusiasts. Their distinctive shape makes them stand out prominently when mixed with other goods vehicles, and it is quite in order to use them in this manner, for petrol or oil tank wagons are to be seen in the make-up of many goods trains. They are usually to be found in the centre of the train so that they are as far away as possible from the engine, no matter in what direction the train is travelling. The purpose of this arrangement is to reduce to a minimum the risk of fire caused by sparks from the engine and a similar disposition should be made when running Tank Wagons on a Hornby-Dublo railway!

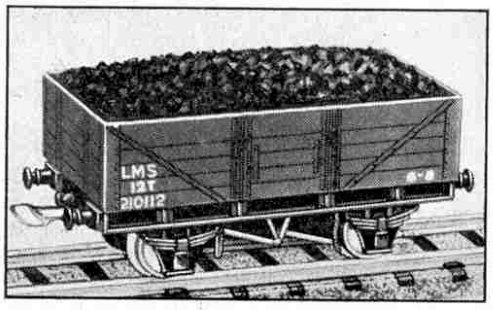
Although railway tank wagons are used for widely different commodities, from petrol to milk, they are generally very similar in their outward design. A typical example has a steel tank capable of holding 12, 14 or 20 tons of liquid, and built in sections with riveted joints. This is held in position by "T" section steel girders standing vertically at each end, and the vertical girders are connected by horizontal cross pieces of channel-section steel, into which are fitted stout wooden beams.

The Petrol and Oil Tank Wagons that have now been introduced in the Hornby-Dublo range are simple but strongly built. The tanks are mounted on the standard Hornby-Dublo Wagon base, which has caused much comment among scale model enthusiasts on account of its remarkable realism. These bases or chassis, to use the more correct term, are produced by pressure die-casting to allow as much detail as possible to be included, and buffers, sole-



bars, brake-gear, axle-boxes and springs are among the details represented faithfully and admirably. The bodies of the new Wagons are finished by the tinprinting process, a method that allows the inclusion of a remarkable amount of realistic figuring and marking.

Tanks with sealed ends are usually very difficult to reproduce on model railways. The circular ends of the tanks of new Hornby-Dublo Tank Wagons are die-cast in one piece with the upright girders and horizontal cross pieces already mentioned. These die castings fit perfectly into the ends of the tank body, and the special nature of their design results in a very neat and flush-finish appearance. A man-hole filler is fitted at the top of each Tank Wagon. This is an excellent little casting reproducing all essential features of the real fittings clearly and without distortion.

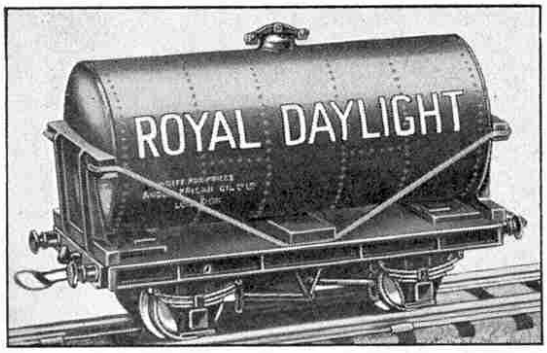


Of the three Hornby-Dublo Tank Wagons the one shown in the upper illustration on this page is a reproduction of an Anglo-American Oil Company's standard four-wheeled tank wagon. It is correctly finished in buff with bright blue lettering and is a very attractive model. The one lettered "Royal Daylight" is a miniature of another tank wagon of the Anglo-American Oil Company, and is finished in bright red with gold lettering. The "Power Ethyl" Tank Wagon is green with gold and red lettering and is a very distinctive model.

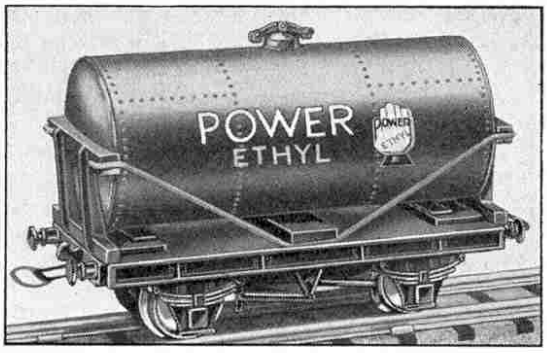
The conveyance in miniature of "petrol" can be made a feature of a Hornby-Dublo layout, and the Petrol Tank Lorries available in the Dinky Toy Series are ideal for road co-operation in this connection. These Lorries are fitted with neat rubber tyres and are correctly coloured representing the "Power," "Shell-B.P.," "Esso" and "Redline-Glico" Petrol Tank Lorries and "Mobiloil," "Castrol" Oil Tank Wagons. Dinky Toys Mechanical Horses and Trailers for the conveyance of "Esso" spirit and "Castrol" oil also can be worked into any scheme of this kind, and Hornby-Dublo owners will have no difficulty in working out plans for supplying the Dinky Toy Garage No. 48 with the realistic Petrol Pumps, Dinky Toys No. 49, with petrol brought from the refineries by rail and further distributed by road.

Another attractive new Wagon introduced this month is the Coal Wagon illustrated at the foot of the page. This is a scale model of one of the standard 12-ton open type wagons seen every day on real railways. The wagon body, which is built on the standard Hornby-Dublo chassis is tinprinted, and all essential features, such as the horizontal boarding, corner plates and strappings, are faithfully reproduced. A feature that makes the Wagon doubly interesting is the realistic representation of its load of coal.

Coal trains are common practically on all railways, and Hornby-Dublo Railways will be all the more realistic for the reproduction on them in miniature of this essential feature. The new Wagons indeed open up a fine field for interesting train running. They are available in the colours of the four main line companies, and their details are in accordance with the practices of the groups they represent.



New rolling stock for Hornby-Dublo Railways. Above is the perfectly finished model of one of the standard four-wheeled petrol tank wagons operated by the Anglo-American Oil Co. On the left is the "Royal Daylight" Oil Tank Wagon, an accurately finished miniature in red with gold letters. On the right is the "Power Ethyl" Petrol Tank Wagon. Below is a Hornby-Dublo reproduction of a 12-ton coal wagon. This Wagon is fitted with a representation of coal and can be used to make up realistic coal trains in miniature.



Variety in Hornby-Dublo Train Working

The Fun of "Doing Things Differently"

IN developing an interesting running programme it is frequently necessary to make locomotives, rolling stock and equipment serve various purposes. To do this is quite in order, and has the further attraction that comes from "doing things differently." It is not essential to keep rigidly to the standard arrangements of Hornby-Dublo Train Sets. The composition of these is a valuable guide to the less experienced operators, but enterprising Hornby-Dublo owners will invariably cast about for methods of working and schemes of development that remove his layout entirely from the "standard" category.

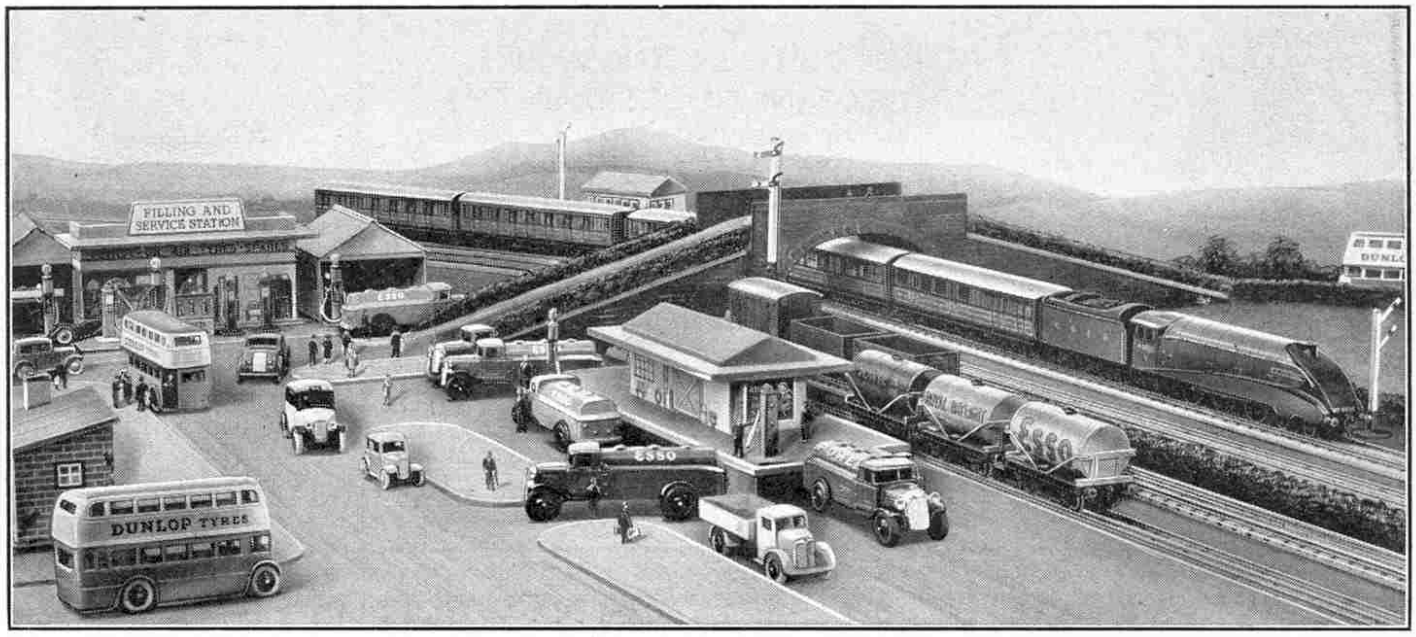
On most miniature railway systems special importance is invariably attached to the working of express passenger trains. In making up trains of this kind the Two-Coach Articulated Unit contained in the Hornby-Dublo Passenger Train Sets of course is used. In addition to the standard Unit a separate eight-wheeled Corridor Coach is available, however, and this also is most useful in the formation of important express trains. The motors of Hornby-Dublo Locomotives, whether electric or clockwork, are so efficient that they will deal readily with an additional coach, and the Corridor Coach therefore can be used regularly in making up these trains.

On some systems space is restricted and comparatively lengthy trains cannot conveniently be dealt with as a regular thing. This Coach can then be attached to main line expresses only over a definite part of the track, or at intervals. For instance, it can be used with advantage to provide a through service to or from some point not served by the main train. An interesting example of this type of working on a Hornby-Dublo layout was given in the article in the February "*M.M.*" in which the miniature railway of Mr. V. J. Martin was described.

The working of local and suburban train services is often thought to be uninteresting. This is the type of train with which the majority of boys are most familiar, however, and operations can be made very attractive. Intensive steam worked services are run over many suburban lines during the rush periods of the day, and it is easy to imitate similar conditions in miniature. Working of this kind is most enjoyable when the layout boasts an actual terminal station. On an ordinary continuous layout a through station can be used as a terminating point for services of this kind, however, and satisfactory results can then be obtained, provided that the track layout is suitable for the rapid manœuvring of trains and of locomotives.

For intensive suburban work it is an advantage to standardise the train make-up. Sidings and loop lines and running round arrangements can then follow a standard plan, and quicker station working will be the result. From this point of view the use of the Two-Coach Articulated Unit is ideal, and certainly is realistic, for this form of stock is extensively used for suburban work on the L.N.E.R. system. It may not be strictly accurate to employ corridor vehicles for such duties, but the handiness of the "twin" units no doubt will outweigh this in the opinion of the "Operating Superintendents" of most miniature lines.

For ordinary local working the practice of running a tank engine round the train that it has brought into a terminal station, and then coupling up for the return journey, is quite satisfactory. For more intensive operation, however, where the time between arrival and departure is restricted, it is good practice to provide what is known as a "turnover" locomotive. This is an engine that is waiting at the terminus to back on to a train for the return journey. The engine that has brought the train in is uncoupled and then proceeds to a convenient engine road or siding until the arrival of another train, when it then acts as a turnover locomotive, and so on.

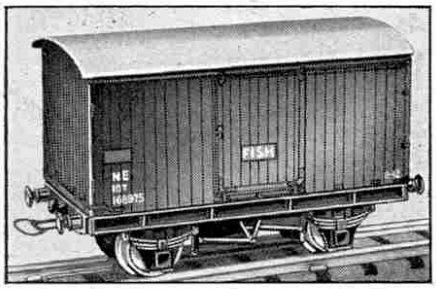


A layout that is different. A clever combination of Hornby-Dublo Trains and Dinky Toys. The careful placing of the vehicles makes the scene very realistic.

More New Hornby-Dublo Rolling Stock

Attractive Vans for Fast Freight Traffic

THE new Hornby-Dublo Petrol and Oil Tank Wagons and the realistically-loaded Coal Wagon described in last month's "*M.M.*" were only the forerunners of attractive new rolling stock that will be added to the Hornby-Dublo range this



season. They have already been followed by the splendid Horse Box, Cattle Trucks and Meat and Fish Vans illustrated on this page. The bodies of the new vehicles are built on the standard Hornby-Dublo wagon base, and are finished and detailed by the tin-printing processes used with such excellent effect for the Hornby-Dublo rolling stock previously produced. The base is manufactured by pressure die-casting so as to permit as much detail as possible to be included in its design; the bodies are equally remarkable for the amount of external detail represented, all the boarding, strapping, hinges and handles and other small parts being well shown.

The two new Meat Vans are excellent representations of the real L.M.S. and S.R. vehicles. The L.M.S. model is finished in the now familiar Bauxite brown and has a grey roof. All the external features are faithfully reproduced, including the vertical boards, strapping and corner pieces, and the sliding doors on which the word "*Meat*" appears in white letters, and even such small details as bolt heads and invoice clips are shown. The tonnage figure, tare weight and running number also are reproduced.

The real L.M.S. meat vans, on which the design of one of the Hornby-Dublo Meat Vans has been based, are of the ventilated type for fresh meat traffic, and have ends constructed of pressed metal which is corrugated for extra strength. This feature has been indicated on the Hornby-Dublo L.M.S. Meat Van; the ends of this vehicle have not actually been pressed to shape, but the tinprint design reproduces the effect extremely well. The combination of steel ends and wooden sides for wagons and vans may seem to be a rather peculiar arrangement, but it is perfectly efficient. It has been found that the ends of wagons and vans are the parts most liable to damage, and most often in need of repair, because they are continually being knocked by loads shifting owing to shunting shocks. The metal ends help considerably in preventing this trouble.

The Hornby-Dublo S.R. Meat Van is very different in outward appearance from the L.M.S. model, although it is exactly the same size and also has metal ends, and sides representing horizontal boarding. Its sides and ends are coloured the peculiar shade of buff commonly used on S.R. vans, and it has a grey roof. The external arrangement of these vans is unusual in presenting a combination of planking and strapping in conjunction with various areas of plain sheet metal. There are the usual wide planked sliding doors placed centrally. The ends are devoid of much external detail, except for vertical strappings and cross pieces and a couple of lamp brackets. The lettering includes the words "*Meat Van*" in red letters in the centre, and there is the usual identification matter and the code word "*Mica*" and tare weight.

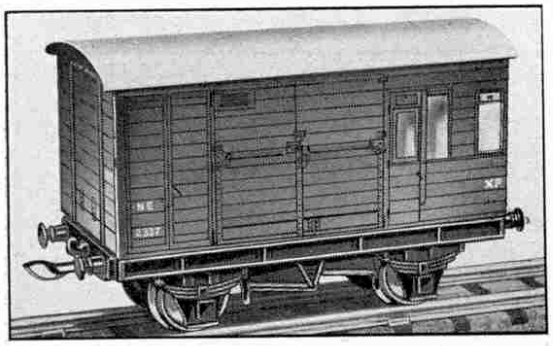
There are two Cattle Trucks, one G.W.R. and the other L.M.S. These two models are particularly interesting because their sides are pierced to represent the familiar openings of real cattle trucks. The L.M.S. model is finished in Bauxite brown and the G.W.R. in dark grey, and both are detailed correctly, including the horizontal boarding common to their prototypes. The doors are typical of the designs adopted by the respective companies. In actual practice the lower portion of these drops outward to form a loading ramp and the upper portion is double, swinging outward.

Unlike the ends of the vans previously described, those of the cattle trucks are constructed of horizontal boarding supported by vertical straps. In this respect the two models are similar, but the G.W.R. model has additional strapping. There is no identification matter on the miniatures to indicate what duties they are designed for, but this is not necessary, as their appearance is unmistakeable. They are Cattle Trucks in every detail! The G.W. model has a white roof and white lettering, and the L.M.S. Cattle Truck a grey roof and white lettering.

Another new and attractive model is the Hornby-Dublo Fish Van, which is finished in the characteristic shade of red-brown used by the L.N.E.R. for freight vehicles fitted with automatic brakes. They are constructed throughout of vertical boarding, the ends being strengthened by vertical iron work, and the name "*Fish*" appears in white in a panel on the large sliding door. Other details include the wagon's number and tare weight, and the letters "N.E." in the bottom left-hand corner. A white roof is fitted, and the general appearance of the vehicle is one of reality.

Lastly comes the Horse Box, a truly fine model! The bodywork is finished in teak brown and the lettering is in white. The detail of this Van is perfect, the attendants' portion being correctly finished with windows "that can almost be seen through," in spite of their being represented by tinprinting. The actual horse box portion has the familiar drop doors, forming an exit and entrance ramp, and upper double outward opening doors, and other details correctly shown include the horizontal end boards and steam pipes. Two lamp brackets are reproduced in the printed design. On the real vehicles these are for use when the Horse Box is being run at the rear of a passenger train.

Although the vans illustrated and described on this page are designed for fast freight work, they can be used quite correctly on express passenger trains, either at the front or the rear of the train according to traffic requirements.

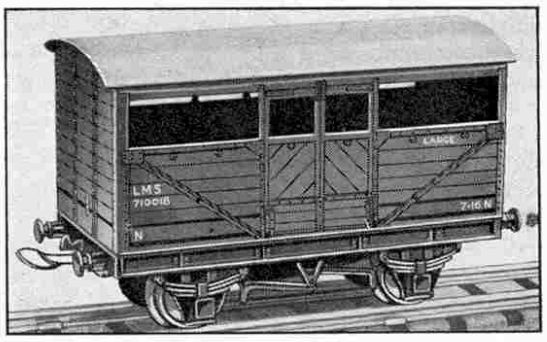


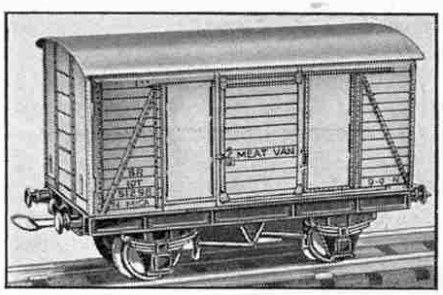
Above: The Hornby-Dublo N.E. Fish Van. The body is finished in red-brown and lettered in white.

Left: This is a model of the latest type of N.E. Horse Box, coloured in teak brown. The roof and lettering are white.

Right: An attractively designed Cattle Truck. There are two of these, coloured and lettered to represent the latest practices of the L.M.S. and G.W.R. respectively.

Below: Scale model of the ventilated meat van operated by the S.R. It is coloured buff, and the corresponding L.M.S. van is finished in Bauxite brown.





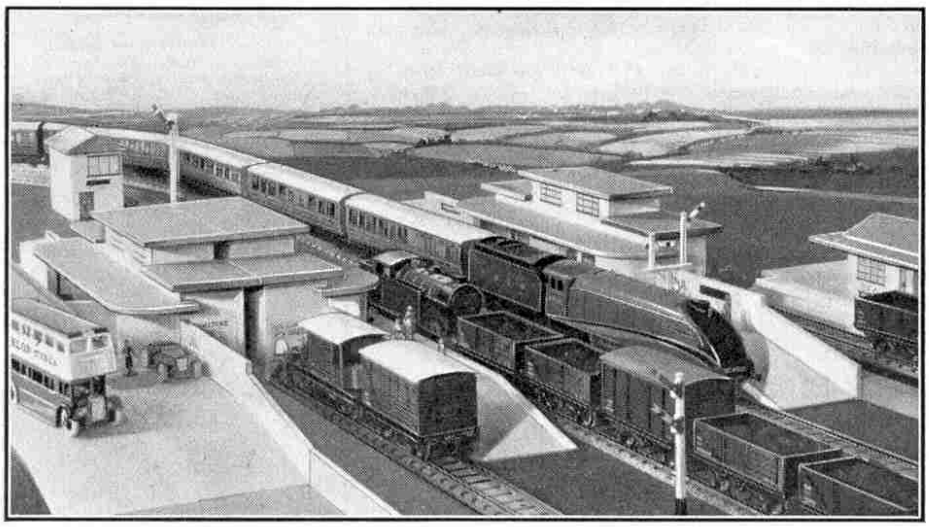
Some New Schemes for Hornby-Dublo Railways

Train Working and Lineside Novelties

ONE of many interesting schemes for novel passenger and goods train working described in last month's article involved the use of the separate L.N.E.R. Corridor Coach to provide a through service to or from some point not served by the main train. A further suggestion that will appeal to those who like variety in train operation is to arrange for a change of locomotives to be made at some suitable point on the through journey of a complete train. As an example, the Hornby-Dublo "Pacific" "*Sir Nigel Gresley*" may be booked to work a complete three-coach train over one section of its run, and replaced for the rest of the journey by the smart L.N.E.R. 0–6–2 Tank. "Weight restrictions," preventing the use of the express engine, over the second part of the run, might well form the imaginary cause of the substitution.

Working of this kind actually is carried out on the L.N.E.R. in connection with the "*West Riding Limited*," which is drawn between London and Leeds by an "A4" streamliner. The train also serves Bradford, and for the section of the journey between Leeds and Bradford tank locomotives of similar design to the Dublo Tank are employed. The thrill of engine changing in miniature—the operation is always interesting to watch in actual practice—will add considerably to the fun normally obtained from the railway.

Further variety in train formation is now afforded by the introduction of the splendid new Vans described on page 300 of last month's "*M.M.*" Each of these Vans represents a brake-fitted vehicle of actual practice, and any one of them can be run quite correctly on a passenger train. When this is done they can be attached "inside the engine," to use the railwaymen's expression, denoting that the vehicle is run at the head of the train, or at the tail end, according to requirements. On real railways a horse box, a fish or meat van, or occasionally a cattle truck can be seen attached to a main line train for prompt conveyance, and the practice is quite a good scheme to adopt in miniature. It adds to the realism of operations and is useful on small layouts, on which perhaps only one or two examples of any particular kind of vehicle are in service. For instance, there may not be sufficient Fish or Meat Vans to form a reasonably long "perishables" train, and for urgent transit these Vans can then be conveyed by passenger services.



An interesting station arrangement on a Hornby-Dublo layout that embodies suggestions made in this article.

Where sufficient of these vehicles are available it is quite in accordance with real practice to form them into complete trains of either Cattle Trucks, Meat Vans, Fish Vans and so on. Cattle specials are often run in connection with the shipment of cattle abroad, or their transport to and from agricultural shows, markets and so on. In a similar manner trains of horse boxes are commonly seen on their way to or from race meetings. Specials of this kind are unusual in miniature railway practice and their running will form an interesting new departure.

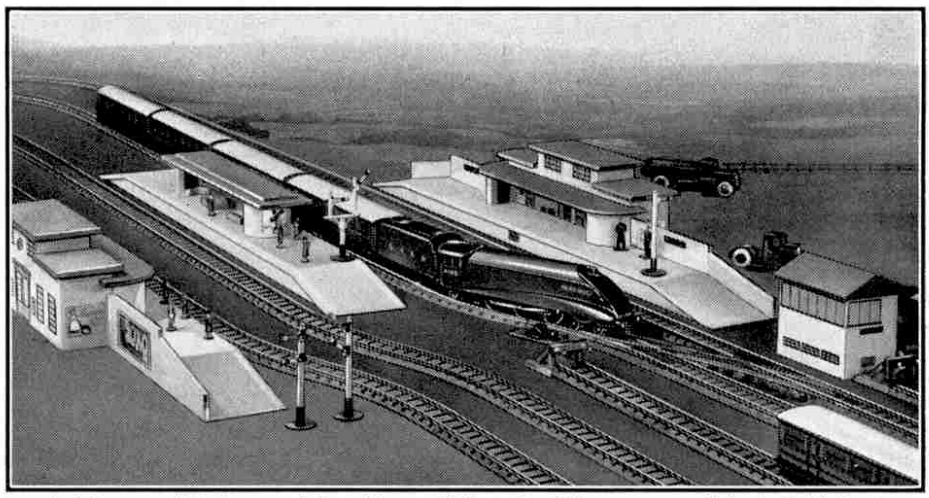
Complete trains of Fish or Meat Vans have a most realistic effect. Perishable traffic of this kind is conveyed at express speeds, and it will be in keeping with the importance of the freight to use the streamlined Express Locomotive for such work. For the shorter journeys, particularly on "trip" workings whereby traffic from wayside stations is concentrated at a marshalling yard ready for the main line run, the 0–6–2 Tank Locomotive is ideal.

A feature of actual practice that is not often reproduced in miniature is the running of special test trains. These may be operated purely for locomotive purposes, or to try out the possibilities of a new schedule or re-arrangement of traffic working. Every owner of a Hornby-Dublo streamliner is proud of the fact that it represents the class of locomotive that holds the world's maximum speed record for steam travel, this having been attained by No. 4468 "*Mallard*" in the course of a special test run last July. It is quite entertaining to carry out locomotive tests on a Dublo system, especially if some new scheme of working is contemplated or some increase in the loads to be taken is proposed. The results obtained from such tests are very useful when timetable working or some other organised scheme of working has to be arranged.

It may be found possible as the result of traffic tests of this kind to reproduce in a sense the intensive long-distance running that is expected of the L.N.E.R. "Pacifics." Rapid turning round of the engines at the end of long journeys is now the rule. This system of working is of benefit to the miniature railway owner. As a rule he has not a large stud of express locomotives at his disposal, and the

Planning Your Hornby-Dublo Railway

Realistic Layouts in Small Space



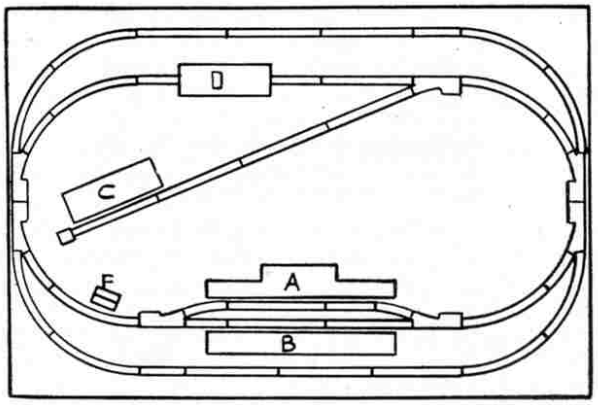
A station scene that gives a good idea of the possibilities and realistic appearance of Hornby-Dublo Track.

HORNBY-DUBLO enthusiasts are fortunate in that the track available for them not only resembles the real thing in appearance to a striking degree, but also has been specially designed to make railway-like layouts possible. One remarkable feature is the small space in which a realistic layout can be accommodated. For details of suitable layouts readers are recommended to obtain from their dealers a copy of the free leaflet *"Suggestions for Hornby-Dublo Rail Layouts."* A typical formation from the selection given in the leaflet is shown in the diagram on this page, which can be accommodated comfortably in a space of 6 ft. by 4 ft.

The diagram serves also to illustrate how the various Hornby-Dublo Track components are related to one another, and how they form symmetrical layouts. For instance, at the station there is no necessity to use parallel points to form the station loop line, for each end of the station loop is formed by Right-hand or Left-hand Points and a Curved Half Rail, and the intervening length is made up of standard straight lengths. Similarly it is possible to form crossover points for connecting two parallel tracks by joining the curved portion of the Dublo Points together. Tracks connected in this manner are the same distance apart as the station lines on the layout illustrated on this page, for the curved portion of the Points is equal in length to a standard Dublo Curved Half Rail and has the same radius.

The station shown in our upper illustration gives a good idea of the realistic effects that are possible with Hornby-Dublo Track. There are four running tracks, with a central siding on which the coach in the right-hand corner of the photograph is standing. An interesting feature that adds to the natural effect of the track is the reverse curve incorporated in the two main tracks nearest the camera. The train shown in the photograph is making use of points connecting two of the parallel main tracks in crossing over from one line to the other.

As regards actual operations, a layout following the lines of the diagram already referred to will afford a great deal of variety in railway-like working, especially if it is an electric line and certain sections of the track are capable of being rendered "dead." How this is done was described in the article in the *"M.M."* last February on *"How We Run Our Hornby-Dublo Railway."* Special equipment for this purpose is being developed, and will be available later.



A useful layout dealt with in this article. The letters denote various Hornby-Dublo Accessories as follows:—(A) Main Line Station; (B) Island Platform; (C) Goods Depot; (D) Tunnel (long); (F) Signal Cabin.

Various interesting operations can be carried out on this layout, their character and extent depending on the amount of rolling stock and number of Locomotives in hand. For instance suppose that both a goods and a passenger train are available. Our goods train, already assembled by one of the Hornby-Dublo 0–6–2 Tank Locomotives, can stand in the siding by the Goods Depot "C" while the passenger train, headed by *"Sir Nigel Gresley,"* the fine scale model 4–6–2 streamlined engine, is making its run round the outer or inner oval of the layout. After completing one or two circuits, the train can be brought to a standstill at the station, either in the loop line or on the main line. The goods train can then move out of the siding on to the main line and be stopped on the outer loop, the passenger train meanwhile entering the siding thus left empty. On the other hand, the provision of a loop line at the Main Line Station "A" makes it possible for the goods train to be kept in the station while the passenger train is in operation, and vice-versa.

Although it is not possible to control clockwork locomotives to the same extent as electrically-operated engines, it is nevertheless a great advantage to be able to have more than one Locomotive at any point of the layout, without the necessity for sectionalising. Such a layout as the one dealt with therefore is very suitable for Clockwork Trains.

The provision of accessories always does much to add both to the realistic appearance of any line and to the pleasure of operations. Hornby-Dublo Accessories have been designed to fit in with the standards observed for Hornby-Dublo Track. Platform heights, for instance, are in keeping with that of the track, so that the coach footboards pass them at just the right level. The layout diagram on this page shows suitable positions for various Accessories.

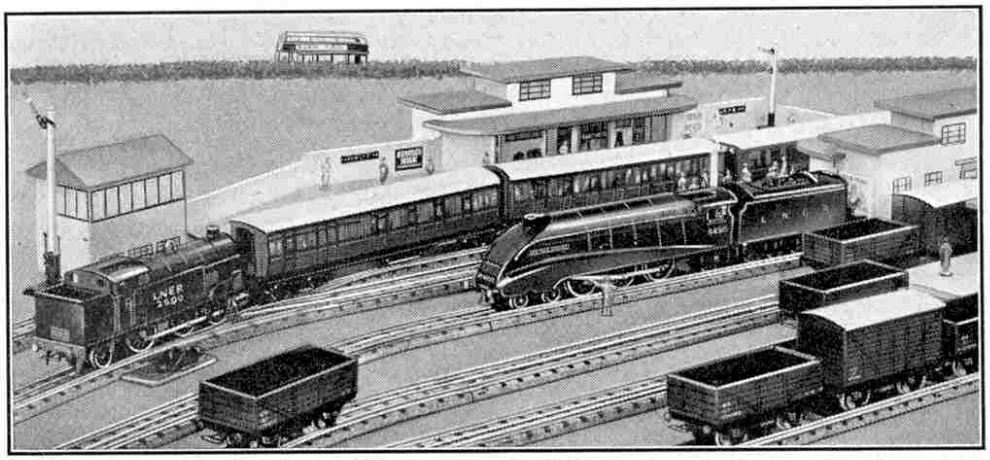
Fun with Hornby-Dublo Trains

The Fascination of Control

LAST month we gave a general survey of the Hornby-Dublo Railway System and of its various components. This month we make suggestions as to the various operations that can be carried out as a result of the special features of the System.

The perfect control that is afforded with the Electric Train Sets makes possible some most fascinating working; the engines can be made to behave exactly as if there were enginemen in charge on their footplates, for they are instantly responsive to every movement of the Controller handle. The laying of the track is easy, and the connections between the power supply—whether Dublo Transformer or accumulator—and the Controller and track, are simply made.

The material available in the Hornby-Dublo range enables the model railway owner to carry out some interesting train working. The components of the Passenger Train Sets, for example, both clockwork and electric, are ideal for the reproduction of L.N.E.R. express operations. The streamlined locomotives, of which "*Sir Nigel Gresley*," the subject of the Hornby-Dublo model, is the best known, are employed in general main line service and are to be seen working almost any of the more important long-distance trains. Similarly the famous teak passenger stock and the characteristic system of articulation so long familiar on the East Coast Route are splendidly reproduced in the Two-Coach Articulated Unit packed in the Sets.



Realistic working on a Hornby-Dublo layout. The Tank Locomotive is shunting the coaches into the station to form a train. The Streamlined Locomotive "Sir Nigel Gresley" that is to haul the train is in the siding.

There is also a separate Corridor Coach that forms a useful addition to the Articulated Unit in the composition of a miniature express train. This separate Coach can form part of the regular set of vehicles used for a particular service, or it can be used in addition as a through coach for some destination, to be detached at an intermediate point during the journey of the main train.

The running of Hornby-Dublo Trains is perfect, and there is a real thrill in the management of the miniature L.N.E.R. express. Almost any of the important main line trains of real practice can be represented by it, except the high-speed trains such as "*The Silver Jubilee*" that are made up of special stock. By correct management of the single handle of the Dublo Controller all the movements of the train can be regulated to reproduce exactly the behaviour of real trains. Let us follow in imagination the running of a Hornby-Dublo express.

We will assume that the coaches are already alongside the platform of the station. The station is the scene of animated bustle as the Hornby-Dublo railwaymen go about their work and attend generally to the wants of the miniature passengers who are selecting their compartments and getting settled for the journey. The locomotive that is to take the train, No. 4498 "*Sir Nigel Gresley*," is, we will suppose, waiting in a siding near the station. When all is ready it can be brought gently on to the main line, feeling its way just as the real locomotives do when they are moving slowly. At a touch of the Controller handle the engine is stopped and then reversed in order to back slowly into the station. The operation of coupling up, which in real practice always excites interest among those on the platform, is a simple process owing to the certainty with which the automatic couplings fitted to Hornby-Dublo stock engage with one another.

At last the departure time is near, and at the appointed moment the train moves off in a remarkably realistic manner, the movement of the engine suggesting strongly the characteristic getaway of the real streamliners. Once the train is under way, speed can be varied according to the wishes of the operator. The train can be kept moving moderately at first, as if the engine were climbing as the real L.N.E.R. trains have to do when leaving King's Cross. Then it can be speeded up, and again slowed down, exactly as required. Its passage round certain curves may be made gently, and stations can be passed slowly just as if the train were obeying speed restrictions such as are encountered on a real journey. These variations in speed that are effected at a touch of the Controller handle make us realise the thrill of perfect control; it is most exciting, too, to watch the train dashing through a station or plunging into one of the Hornby-Dublo Tunnels and suddenly emerging at the other end.

Long non-stop runs can be arranged, but it is more interesting from the operating point of view to run trains that make one or two stops during their journeys. The splendid speed regulation that is afforded makes it possible to retard the train gradually and to bring it alongside the platform with the uncanny precision that seems to be second nature to most real engine drivers. The Hornby-Dublo main line Station will accommodate the coaches of a three-coach train alongside its platform.

Hornby-Dublo Lineside Effects

Easily-made Signs and Other Features

A MINIATURE railway must have lineside effects of various kinds to give definite character to it. Otherwise, whatever its extent, it gives the impression of being a mere track, without any apparent reason for its existence. In laying out a Hornby-Dublo System therefore it is necessary to give attention to this subject. We have previously dealt with the various requirements of a railway nature, such as Hornby-Dublo Stations, Signals, Tunnels and so on, and we propose now to deal with other methods of adding to the realism of the railway.

The railways in this country are bound to enclose their tracks, and it is necessary therefore for us to find some way of defining the limits of our railway property. The standard Hornby Hedging is ideal for this purpose, and can be applied equally well to either permanent or to temporary systems. Each length is made up on a thin wooden base, so that it is easy to make alterations when changes are made in the layout, or when this is extended. Good use can be made also of Hornby Trees, especially if they are grouped in a reasonable manner and are not simply placed in odd spots, without much thought to their effect. Hedges and trees are characteristic of the view to be seen from the carriage window on almost any railway journey in this country, and the Hornby Hedges and Trees will help to give something of this "green and pleasant" effect alongside a Hornby-Dublo railway.

Miniature walls provide another possible means of enclosing the tracks. These may be in the form of retaining brick walls of various heights where the railway cuts its way through below the surface of the ground; or they may represent the low stone walls that are commonly found in parts of the country where stone is easily obtained. The enclosure of a railway yard or other premises may call for a built-up wall of brick, stone or concrete. A popular way to make up walls of this kind is to cut pieces of wood of suitable size and shape, and either to paint them to represent brick or stonework, or to cover them with the brick-paper that is obtainable from many toy shops and from most decorators.

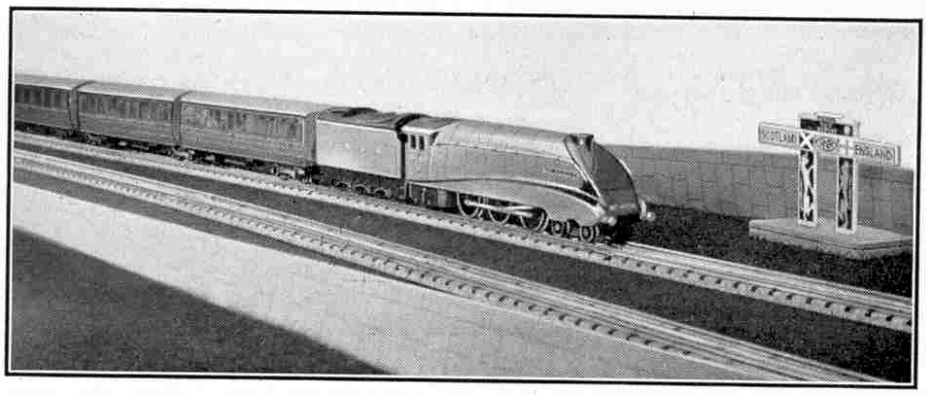
Some readers make good use of the lengths of pavement contained in the Pavement Set, Meccano Dinky Toys No. 46. This certainly saves the model railway owner having to carry out the "decoration" of his walls, for one side of the Pavement sections is printed to represent the usual paving and curb stones. A special advantage is the fact that the sections can be readily cut to whatever length or height may be necessary, by means of a sharp knife held against a steel rule.

It is much greater fun actually to "build" one's walls, however, and it is possible to do this by means of the miniature Bricks that are available in the Hornby System, in which they are primarily intended for use as wagon loads. They are supplied in boxes of 100, and with them an actual wall can be built up by laying the bricks on edge. They are quite stable when placed in position, but it is more satisfactory to be able to secure them in some way and Seccotine makes excellent "mortar" for the purpose.

On a permanent layout a "brick" wall so made can be built on the site where it is required, and for use on more or less temporary systems it is possible to build up standard units, each say 10 bricks long and as high as may be required. In setting the bricks it is necessary to ensure that the vertical joints of one row come exactly opposite the midway points of the bricks of the next, both above and below. This method has the result of providing at the end of one section projecting tongues that can be fitted into corresponding slots in the next length of wall.

It is worth noting that there is no need for the walls to follow a dead straight line; they can be made to conform to regular curves. If several units of the latter kind are required, possibly to run parallel with a curved section of track, it is not a bad plan to draw the line to be followed on a sheet of paper or a piece of flat cardboard, and to lay this down as a guide to the "bricklayer." Walls made in this way have a particularly natural appearance. The comparative size of the Hornby Bricks may worry some enthusiasts; they are certainly too large to represent bricks on the same scale as that of Hornby-Dublo Trains, but they can be considered as representing large stone blocks.

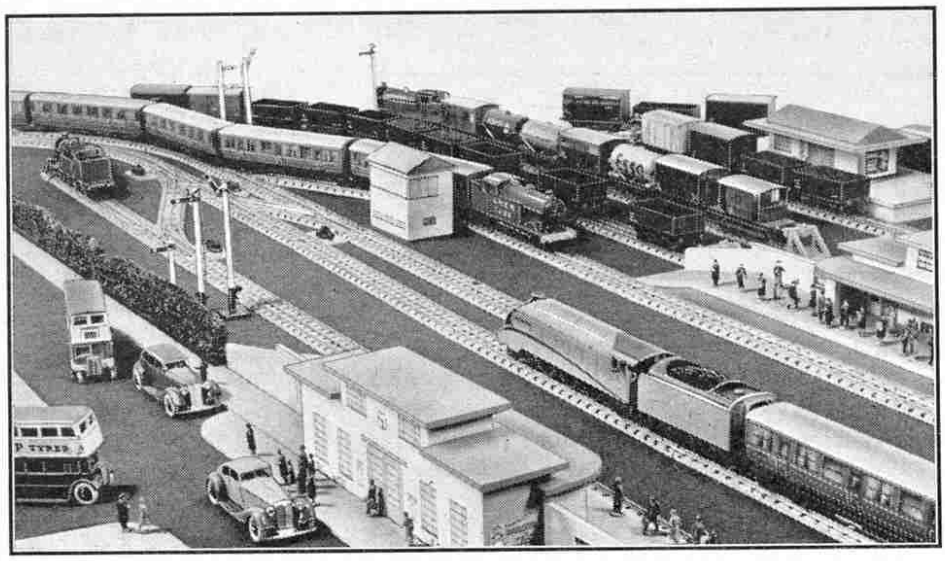
Having provided walls for our railway property, the next step is to endeavour to relieve the somewhat blank appearance that they are bound to have. For this purpose the Hornby Posters, particularly the smaller ones, are ideal, and the attractive poster displays that can be arranged add considerably to the realism of a system. In addition to their display in this manner, the posters can be shown also on the Hornby Station Hoarding. This can be used to represent a large board of the kind frequently erected in the neighbourhood of stations, and it can be employed equally well as a lineside or field sign.



A Hornby-Dublo express passing a miniature Border Sign made up as described on the opposite page.

Stations and Goods Yards

Plans for Hornby-Dublo Layouts



A four-track station layout arranged with Hornby-Dublo components. The platform lines consist of loops that are led off the main tracks in the centre by means of points.

THERE is no fun in running trains on a miniature track that is not realistic. It is therefore important when planning a layout to be sure that the formation adopted will be suitable for the operations it is intended to carry out. Stations and goods yards are the places where the movements of trains are influenced to the greatest extent by the layout, and the arrangement of these is the subject of this article.

The simplest station layout imaginable consists of a Hornby-Dublo Main Line Station served by a single track. This may easily form a starting point for larger and more interesting schemes. The first requirement probably is the addition of a siding where the coaches form passenger trains or the goods vehicles used for freight traffic can be left when not actually in running. Such a siding is best arranged in what is known as the trailing direction to the main line; that is to say it is entered only by means of a backing movement when trains are running in the direction normally followed, so that engines working into the siding are not trapped at the buffer end by their trains. A simple turnout for the main track is therefore required and this is formed by means of points; whether these are of the Right-hand or the Left-hand type will depend on which side of the main track the siding is to be and on the normal direction of running on the main line. On many single track systems one-way traffic is usually operated, its direction being according to the preference of the individual railway owner.

When laying in the points we must make sure that the rails are held in line by means of the connecting "fishplates" and that the centre connecting clips are truly in position. The next step is to add a curved half rail to form a reversed curve in conjunction with the turned out portion of the points, and so bring the diverging line parallel to the main track. This is allowed for in the design of Hornby-Dublo track parts, the half rails being equal in length and radius to the curved member of the points. All that remains now is to connect up to the free end of the curved rail as many straight rails as space permits.

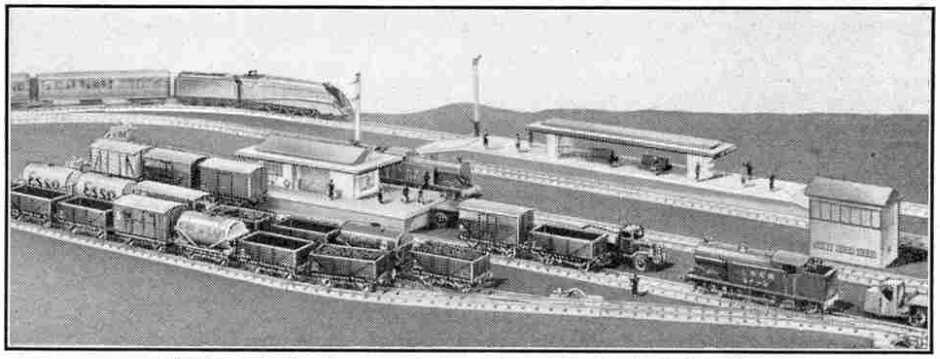
A siding so formed is terminated by one of the splendid little Buffer Stops of the Hornby-Dublo Railway System. This represents the usual timber-built type of stop and has actual spring buffers. It is finished in grey, with a red buffer beam and warning lamp, and is a most useful and effective working accessory. The joining up of a buffer stop to a length of siding is not difficult. Care must be taken to see that the stop is fitted to the end of the straight rail that has two slots formed in the turned over portion of the track base. These slots serve to receive the spring wire clips that are provided on the base of the Buffer Stops.

This completes our siding, which makes a useful addition to the system. Trains that are to enter the siding draw past the points until the last vehicle is well clear of the switch rails. When the road is made by throwing over the points operating lever the engine is reversed and the train backed in, the switch rails then being restored to the normal position for main line traffic.

With this single siding arrangement it is possible to have quite an amount of fun. A useful development for small layouts is to place the Hornby-Dublo Goods Depot by the siding line, thus making provision for the loading and unloading of freight traffic. A more ambitious arrangement, however, would be to convert a dead-end siding into a running loop by the provision of additional points at what has been up to now the buffer stop end of the siding. This increases the usefulness of this track enormously, for trains then can enter the loop directly off the main line and the reversing movement previously necessary is done away with. Hornby-Dublo Track has been carefully designed to make this arrangement easy. The straight part of the running loop contains one straight rail fewer than the length of the main line situated between the two points leading to the loop.

Very often the installation of such a loop leads to the extension of running in both directions on a single line railway. One train is then held in the loop while the other, travelling in the opposite direction, is traversing the main line, an operating scheme that has frequently been dealt with in the "*M.M.*" This may suggest the expansion of the station premises either by the addition of a further Main Line Station alongside the loop, or by means of one of the useful Island Platforms. Both arrangements give realistic results, and the use of the Island Platform has the further advantage that another track, possibly a terminal bay, can be accommodated on its outer side, thus providing for local

Fun with Hornby-Dublo Clockwork Trains



Shunting operations in progress in the goods yard of a Hornby-Dublo railway.

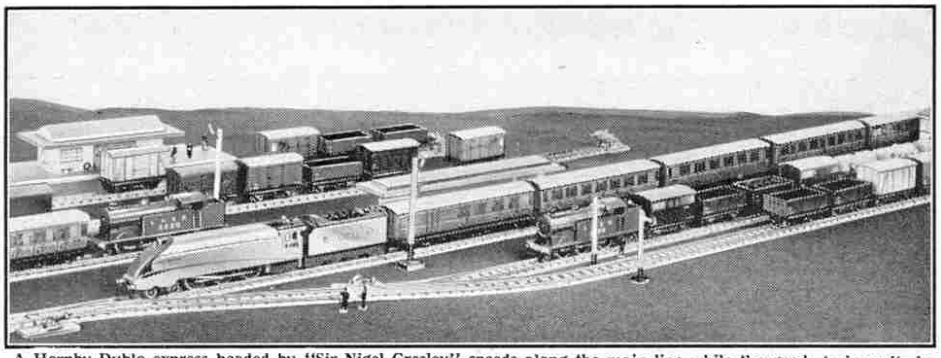
WHEN owners of Hornby-Dublo Clockwork Locomotives get past the stage of merely winding up the mechanism and seeing the engines haul their trains round the track, they are interested to find how easily their engines can be controlled and how closely their movements can be made to resemble those of the locomotives of real railway working.

A clockwork layout may not afford the same degree of remote control as an electrically-operated system, but the Hornby-Dublo clockwork mechanisms are so carefully designed, and so efficient in operation, that their "ways" can be learned with a little practice and they will be found very consistent indeed once they have been run in and have settled down to work.

Advantage can be taken of this regularity of running on a given layout to make the engines and trains operate to a settled running programme, in which certain distances are run between stops, without any re-winding or handling of any kind. In order to work out such a scheme it is necessary to make a series of tests with the locomotives with various loads. Probably the first to run over a given distance, say to a station, will result in the latter being over-run. The run should then be made again with the engine not quite so fully wound, and by varying the number of turns of the key that are given it is possible after some experimenting to make the engine stop practically where required. When this measure of control is attained it is a good plan to make a note of the results obtained. Although we refer to turns of the key as a matter of habit, actually each twist of the hand when winding up moves the key through half a revolution only and it would therefore be more correct to refer to half-turns.

On an oval layout occupying a space of 6 ft. by 3 ft. it will probably be found that 11 or 12 half-turns of the key will wind up the motor sufficiently to take the streamlined express locomotive and the twin articulated unit about 3½ times round the track. If 12 half-turns prove too much we can make use of the characteristic "clicks" of the ratchet to note the amount of winding necessary after the eleventh half-turn, as we have previously suggested in these pages. Perhaps 11 half-turns and two "clicks" may be not quite enough, but an additional "click" gives the result required. Judgment must be exercised as to the exact point at which to stop winding, but after a little experience it is not difficult to give the right amount of winding up.

Some really good fun can be obtained on a layout consisting say, of a main oval track with a station and loop line at one side and a pair of sidings at the other. With both a passenger and a goods train available a variety of interesting operations can be performed. As the line includes a siding the goods train can be held there while the express, headed by the splendid 4–6–2 streamliner *"Sir Nigel Gresley,"* speeds along the main line and then stops at the required point, which of course should be the station. The 0–6–2 Tank Engine, which is in charge of freight operations, is now wound up sufficiently to carry it and its train from the siding, along the main line and into the loop at the station. There the goods train can wait and *"Sir Nigel Gresley"* then backs the coaches of its track into the siding, giving the goods train a clear line so that it is able to complete its journey before the passenger train gets the "right away" once again. Each train therefore is able to have a period of running, even though the main line consists of single track. This kind of running is good railway-like fun, but even a single train will give splendid entertainment to its owner.



A Hornby-Dublo express headed by "Sir Nigel Gresley" speeds along the main line while the goods train waits in the loop line.

In local passenger train working the regularity of running of clockwork locomotives is particularly valuable. On a layout of the type that we have been considering station-to-station runs can consist of single circuits of the oval track. When the end of the journey is supposed to be reached the engine should be wound just sufficiently to enable it to run round its train by means of the loop line.

On larger layouts more intensive working of a realistic character can be carried out. At the terminal points the "turnover" system of engine working will be most effective, whereby an arriving engine stays at the platform until its train has been taken away by a fresh locomotive, afterwards proceeding to the engine siding and waiting to take over the next arrival. An effect to aim at should be that arriving engines should have sufficient power left in them to allow them to run out to the engine line to prepare for another journey.

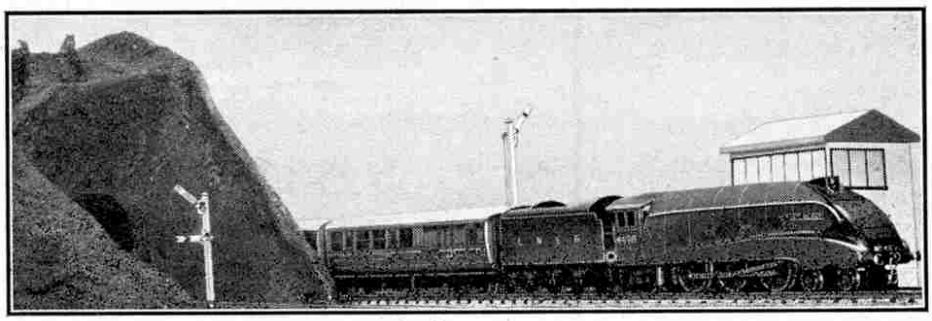
The making up of trains before a running programme by means of Hornby-Dublo Clockwork Locomotives can be quite fascinating. The automatic couplings on Hornby-Dublo rolling stock ensure the satisfactory connection of the various vehicles, and after a little practice the "driver" will become quite skilled in the matter of judging the small amounts of winding that are necessary for the engine to make a succession of movements.

The shunting of trains and the distribution of the vehicles over a number of roads also can be carried out successfully with clockwork engines, the duties of the driver and the shunter being combined in the one operator. The different vehicles or "cuts" of vehicles can be made to part company on the run, as they are by "fly-shunting" in real practice, if the actual uncoupling is carried out before the engine starts to propel the train. The standard Hornby Shunter's Pole is a most useful piece of equipment for this purpose. After uncoupling the handle of the Pole is held vertically between the adjacent couplings at the point where the train is to be divided in order to prevent them from engaging as the engine pushes the wagons. On retarding the engine smartly the wagons to be cut off from the main train then go on to an easy stop. If the winding of the engine is correctly managed the stopping of the locomotive can be carried out without the operator having to touch the engine.

An interesting development of this scheme can be made use of when the engine is to leave the last of its wagons in the siding. It will be noticed that the automatic coupling fitted to the front end of the Hornby-Dublo Tank Locomotive is not provided with the twin projecting "nibs" that are characteristic of the other automatic couplings. When the engine is shunting "chimney first" this coupling can be placed over the coupling of the next vehicle and the two will part company when the engine is retarded. Very little practice is required to carry out this efficiently.

Developing a Hornby-Dublo Railway

Hints on Installing a Satisfactory System



A striking view of a Hornby-Dublo express emerging from a tunnel. The up and down tracks pass through separate bores, and the mouth of the further tunnel is hidden by the outcrop of "rock" between the tracks.

OWNERS of Hornby-Dublo railways will be thinking of possible expansions of their systems to be carried out during the coming months. Those who are starting a layout now or intend to have one shortly are sure to have the desire to build this up gradually, and will already be considering different schemes of development. It will therefore be interesting to work out some of the ways in which a Hornby-Dublo system can be extended to advantage.

In the actual installation of a Hornby-Dublo railway there are various points to be weighed up. The line can be arranged on a table, for the Hornby-Dublo System is the ideal table railway, and if this can be set aside for miniature railway purposes the track can be laid directly on it and left more or less permanently in position.

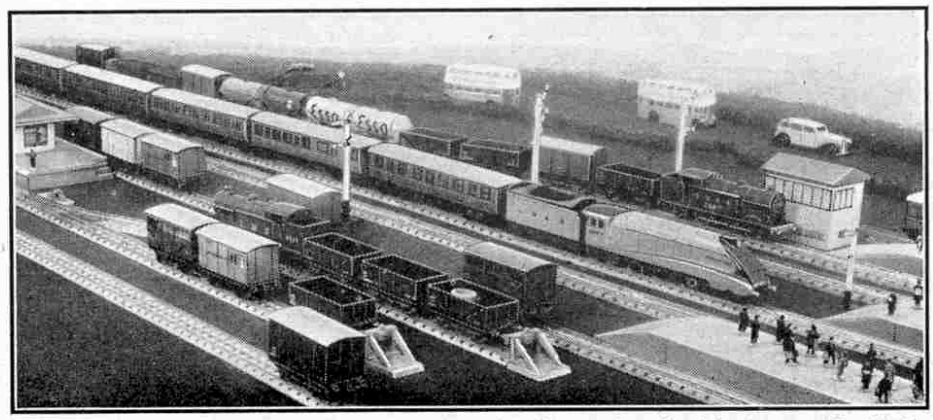
In most cases the railway has to be put down and taken up again each time it is used when a table forms the baseboard. An improvement on this arrangement that is very popular is to use as a support for the railway one of the special Hornby-Dublo boards. These are available in three sizes, 6 ft. by 3 ft., 6 ft. by 4 ft. and 8 ft. by 4 ft. Details of these boards are contained in the special folder *"Suggestions for Hornby-Dublo Rail Layouts"* that can be obtained free from any Meccano dealer. The boards can be used for any track formation that is favoured by the miniature railway engineer, and for the guidance of the Hornby-Dublo owner the folder referred to includes plans of six different formations for the different sizes of boards, with details of the rails and accessories required.

If the track is laid permanently by being screwed down on a board of this kind the railway can be brought into use instantly, the board itself being supported on the table. When the railway is not in use the board can be conveniently stored away with the track on it, the accessories and other items being removed and kept in their own boxes. The boards are made of special material and are extremely attractive in appearance. Although light in weight they are stiff enough to allow of their being stored by standing on edge against the wall. Thus the railway equipment will not take up much space when not in use, an important consideration in many homes.

The next step from a semi-permanent railway of this kind is the installation of a permanent miniature railway. This of course is only possible where a room, or part of one, can be set aside for the purpose and we hope to deal specially with the arrangement of permanent Hornby-Dublo systems later on. In the meantime we should like to hear all about the railways of readers who have in use permanent systems, such as that of Mr. V. J. Martin, Newcastle, which was described in the *"M.M."* in February last, or that of N. A. Sharples, also of Newcastle, described in July, and invite them to write to us.

Although Hornby-Dublo railways can be arranged on the floor this scheme is not very successful, for the trains cannot then be seen to the best advantage and much of the thrill of their operation is missing when it is seen from a more or less aerial view. Apart from that it may be difficult to secure satisfactory levels and perfect alignment of the track, for the rails are naturally more affected by differences in level caused by the line passing from carpet to lino and so on than is the case with Gauge 0 equipment. It is much better therefore to raise the railway on a table, or on some other suitable support.

The beauty of this arrangement is that operators can "get round" the line so easily. With the layout laid on the floor they always seem to be climbing over one another! On the other hand, with a table railway it is possible for the operators to sit on opposite sides of the table or at all events at convenient spots, without getting in one another's way.



Part of a complete Hornby-Dublo layout, showing the main line with a goods yard and depot on one side of it. On the far side is a loop line used by slow passenger and goods trains.