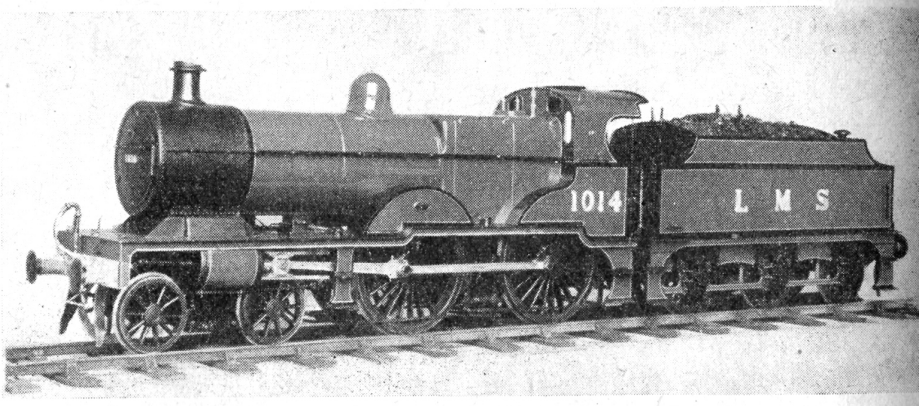
A ⅜-in. SCALE LOCO of the Bridgewater Railway

by Alex. F. Jackson



Mr. A. F. Jackson's ⅜-in. scale L.M.S.R. compound locomotive

THE two photographs show the latest and last model made for the Bridgewater Railway, representing three and a half years' spasmodical work, beginning with several visits to Heaton Mersey Locomotive Shed, where the actual engine was measured, my own drawings being made before work on the model was commenced.

With every new issue of THE MODEL RAILWAY NEWS I always eagerly study any models shown in a most critical manner (that being my nature), finding where the builder has gone astray, where he might have improved matters, and of course, giving him credit for anything I consider he has done really well. Therefore, it is with some trepidation that I wonder how this model of mine will be viewed by my fellow readers, for although it represents three years of my best efforts, it is to me, full of errors. The model, of course, purports to represent an *ex*-Midland Railway Deeley Compound, as superheated and rebuilt during Fowler's time, and lined and lettered, etc., as it might have been running in the year 1934.

Unfortunately, on the line where it runs, the minimum curves are 4 ft. 6 in. radius, and this has meant adopting various devices and subterfuges to make it perform properly, but on the other hand I think it can reasonably be said that it still looks something like the original. I wonder if you can spot where it differs from scale measurements, and have my devices spoilt the character of this engine?

To lessen overhang on the sharp curves the model is not arranged as a 4-4-0, but virtually as a 2-4-2. The front bogie is pivoted just behind its rear axle, and the rear coupled axle has ⅛ in. sideplay. Of course, it will be seen that the buffers are slightly oversize, and this, together with the specialised wheelbase prevents all buffer locking. As the bogie must perforce swing much farther than scale considerations would allow, it is in the region of the cylinders that the most dodging was required, the bogie wheels being scale size over flanges. The cylinders themselves are 1 in. too small in diameter, 1 in. too small in length, 1 in. too far back, and the piston rod is offset 1 in. out of centre, the slide bars being scale thickness. Every time I look at it I think it shows. Do you?

The driving wheels are correct 22 spokes and are listed as 10-mm. "King" wheels, but have needed much filing and reducing in the boss. The other wheel castings and the tender axleguards by Beeson are the only purchased parts, with the exception of the

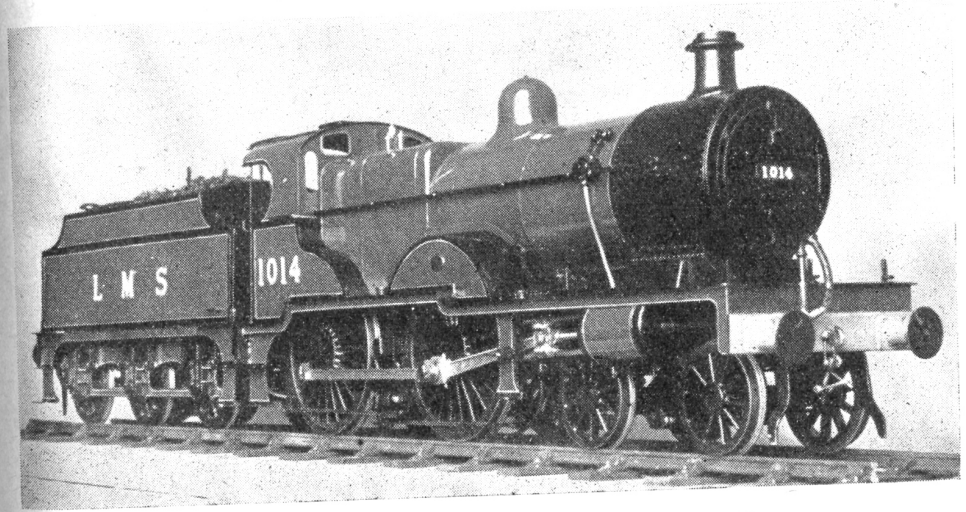
commutator, motor stampings and ballraces. The model is arranged for two-rail and runs off a 100-volt a.c. supply, the motor being in the tender and driving by a flexible shaft on to the rear locomotive axle. The motor has a 24-segment commutator and the armature was wound seven times before the required characteristics were obtained. The field coils have three tappings and one of the tender ventilators, if turned, operates a switch which selects weak or strong field according to the duty the engine has to perform. On weak field, i.e, fast speed, the model will handle about 60 wagons at 100 miles an hour or more, and owing to the sizable flywheel on the armature shaft coupled with the 2-start reversible worm gearing the over run is something over 20 yds. On strong field which is also coupled with a resistance thereby giving the motor only some 60 volts, the performance is much tamer and is the general position for running with wagons, or with inexperienced operators.

The firebox and boiler are mostly full of lead, as is also the smokebox, and to get the centre of gravity between the driving wheels, which is often rather difficult on a 4-4-0 model, part of the tender weight is transferred on to the drag beam. The bogie has a powerful downward spring and also has four side controlling springs, all wheels throughout are sprung or equalised. The brake gear, which is all loose and dangling like the real one, if you've ever kicked at it, is suspended on insulated bushes, as are also the sandpipes, so no shorts are likely to occur this way. The cylinders are bolted directly to the frames and not insulated in any way, but the big-end contains a Tufnol bush.

Current is collected off the driving axle and by a tiny plunger behind one of the insulated wheel bosses, three driving wheels being insulated at the centres, and the axles running in boxes made from Tufnol sheet.

Colour Scheme

The model, of course, is painted red, and I think the painting took nearly as long as the actual making, as I do not like doing it very much and there are also eight coats, each smoothed down with pumice powder, the lining took weeks and two coats of varnish to finish. Because I anticipated a little trouble when I came to the painting, the model is arranged to take down into several pieces—cab, splashers, footplate, cylinders, tender top and firebox-boiler-smokebox all form separate units which are screwed together with 8 B A. screws. This greatly facilitates the handling of the pieces for the painting and lining. For the photographs and enlarging and also the photo-engraved builder's plates my thanks to Mr. G. H. Platt.



An impressive view of Mr. Jackson's model