

LANCASHIRE & YORKSHIRE WAGONS

VOLUME TWO

BY
NOEL COATES



WILD SWAN PUBLICATIONS LTD.



Plate 157. The vast majority of merchandise went by open wagon (often sheeted over to keep out the elements) and this view of a Dia. 1 single planker is typical, except that the wagon looks so clean. The paint date on the solebar says 2/16 and the photograph is dated 16th March 1916 which explains why; this older style narrow side rail vehicle had received new headstocks (and oil axleboxes probably) during the recent general repair, some 20 years after building. The wagon also features in the bottom right-hand corner of Vol. 1, Plate 112.

NATIONAL RAILWAY MUSEUM

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PREFACE

A large number of people were kind enough to express their thoughts and pleasantries with regard to Volume 1 of the goods wagons of the L&Y, and it became clear that the format used in that work had gained the approval of many. This has actually made the job of completing Volume 2 that bit harder, for the remainder of the stock to be dealt with was of such varied character that the length of explanation required was far greater, and so has taken more time. One decision which has had to be made is the numbering of the

plates and figures. In the end, I have opted for a consecutive system so that there is no confusion between volumes; thus, the photograph adjacent to this Preface is *Plate 157*, and the next figure is *Fig. 85*. I hope this is clear for all, and will make the volumes easier to use together. Some changes to placing wagon diagrams in the various sections have been adopted in the light of discoveries made, but in all other instances the objectives of the work remain the same.

IMPORTANT DATES & KEY TO FLOW DIAGRAMS

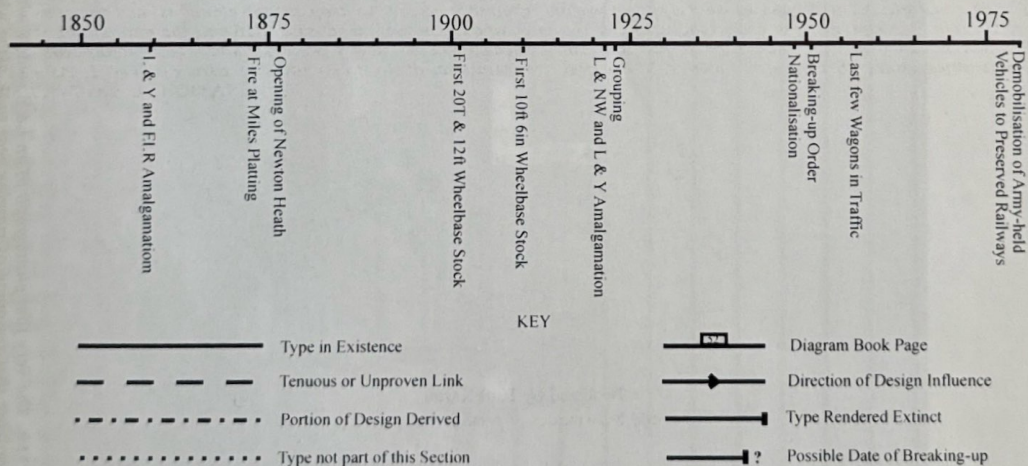


Fig. 85. Explanation of the Flow Diagram (see also Vol. 1, p. 103).

HOPPER WAGONS

The reintroduction of hopper wagons came about owing to the development of electric train services, commencing with the Liverpool & Southport line, introduced in 1904. The L & Y had to generate the required electricity supply itself, and to do this there had to be a constant supply of coal. When the first power station was planned at Formby, the question of how best to handle the coal was answered in the form of gravity feed.

When plans were taken a stage further, there may well have been a few of the old 1880s hopper wagons still in service to aid the design process, though of course they were far too small to be used themselves. From the beginning, the new standard wagon size of 21ft by 8ft was considered, both in traditional wood and all-metal (bodies and underframes). Going purely off the drawing numbers, it seems that the design of an all-steel hopper wagon had already been created, but the first order (S35) was placed a year before the vehicles came out in mid-1904, and it may be that the design was still being developed long after having been assigned a drawing number.

Formby Power Station was in use by the end of 1903, and it is likely that the first coal was supplied using the 20T vehicles from Order Y34 (the large order for Horwich-based vehicles fitted with bottom doors, but no top doors). Someone must have wondered whether a wooden hopper wagon was feasible (it would probably have been cheaper), and Drawing No. 5240 (Fig. 123), shows clearly that the 1902 design of nine planks with one central drop flap was the basis, even though the side door was largely superfluous on a hopper wagon; Drawing 5240, completed around September 1903, is effectively Drawing 616 (Fig. 110) extended in all directions. Other features proposed included two brake shoes per wheel, and a vacuum cylinder shoe-

horned between the bottom doors and a stub brake lever. There certainly wasn't as much space for coal as a standard 20T wagon, and the drawing is strangely silent about intended capacity (which calculates to about 550 cubic feet), but unloading would have been easier. The design was so inferior to what was required that the all-steel vehicle, which matched the standard dimensions and carried 20T, was the one built.

There was already some experience within Britain of steel-sided vehicles: the North Eastern had its ironstone wagons, the L & NWR its West Cumberland hoppers, whilst the L & SWR had bought some 12T ballast wagons from Hurst Nelson (Motherwell) in 1898, whose general style fitted the L & Y needs quite well. Within the company itself, there were the skills gained by the use of metal in the construction of rectangular tank wagons, well wagons and tramcar trolleys (see Sections G or I, Part (i)), and there was also the experience gained from the trips to America by up-and-coming managers and designers. Aspinall had also been involved in some experiments in Ireland in 1883.

Drawing No. 5123 was the basis for the first order of 45 wagons, S35 (details in Table 37), and again nothing quite like it had been seen on the L & Y before. The body was constructed of ¼in steel plate, shoehorned into a frame comprising 9in by 3½in by ½in channel solebars and cross members, the latter set 2ft 9in in from the headstocks. The body braced the underframe (and vice versa), whilst the wheels and brake gear were squeezed within the remaining space around the hopper doors; these were in pairs, set in a 'V' shape, and formed an opening 4ft 9½in long by 2ft 9in wide. Such was the premium on space that the vacuum cylinder and reservoir had to be mounted on the end of one platform, and the pipe ran along the top of the solebar on the

TABLE 37: STEEL HOPPER WAGONS

Dia. Book Page	Order Book Description	Date Ordered	Order No.	Qty	Drwg No.	Account Charge	Cost £ s d	Delivery	Capacity cu ft	Tare T C Q	Notes
54	Steel Hopper Coal Wagons	25 Jun 03	S35	45	5123†	Capital	121 9 7	1904	684	8 11 3	Known numbers 30785 – 30813.
..	Steel Hopper Wagons 20T	Late 1904	F37	40	5783	?	117 10 5	1906	Some 809	various	16 wagons of this order 8ft 6in high, rest 9ft 3in high ‡
..	Steel Hopper Wagons 20T. Steel Frames. Vacuum Brake. 21ft x 8ft. 9ft 3in high	27 Oct 06	G40	5	5783	Renew.	120 5 0	1907	809	8 14 0	
..	20T Steel Hopper Coal Wagons. 9ft 3in high from rails	23 Oct 07	N42	20	5783	Renew.	104 1 9	1908	..	..	
..	Steel Hopper Coal Wagons 20T. 9ft 3in high above rail. 21ft long x 8ft wide	7 Aug 16	O54	22	5783	Renew.	294 13 5	1918/19	..	..	11 wagons built in each year

Notes

† The other drawings listed are: 5212 Ironwork, 5213 Cast Iron work, 5214 Brake, 5216 Buffer cases, 5272 Chains for doors, 5278 Scheme for doors, 5279 Protecting cross shaft (which takes them well past the Wooden Hopper wagon GA No. 5240).

‡ The distribution of vehicles is given as: Horwich 6 at 9ft 3in high and 10 at 8ft 6in high; Newton Heath 18 at 9ft 3in high; and Formby 6 at 8ft 6in high.

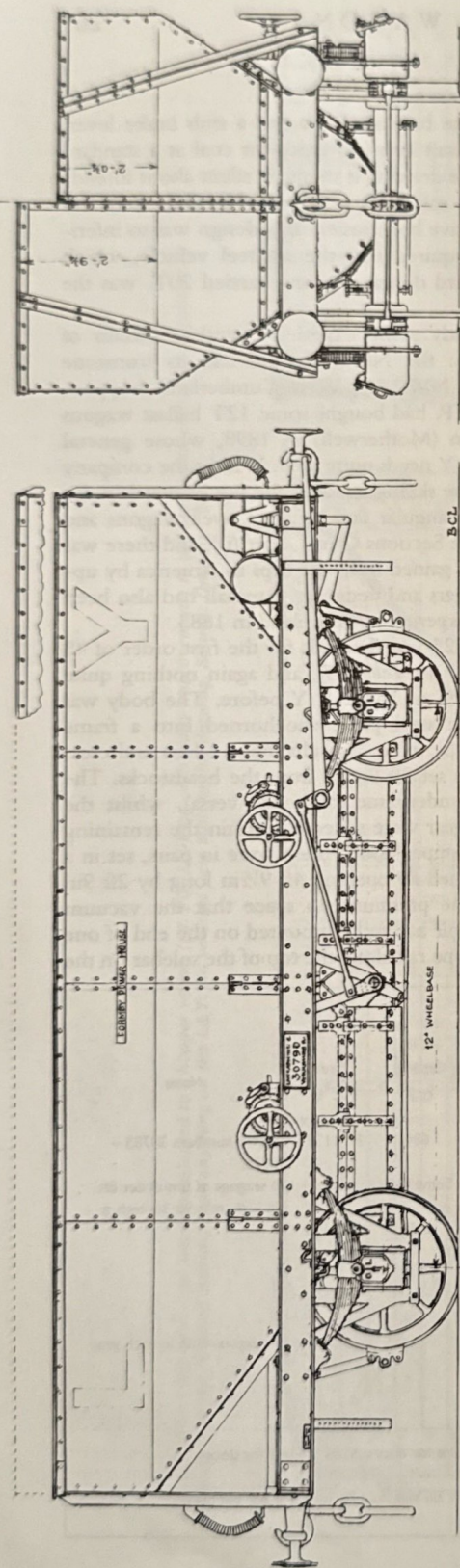


Fig. 124: The Dia. 54 all-steel Hopper wagon redrawn from Drawing No. 5123 as originally built with sides ending 8ft 6in above the rail and vacuum pipes supported by standards with vacuum reservoir and diaphragm on the right-hand end. Hand wheels are for operation of the hopper doors. The 9ft 3in high sides (from Drawing 5783) are shown dotted above and in full as the left part of the end view. Drawn by B. C. Lane.

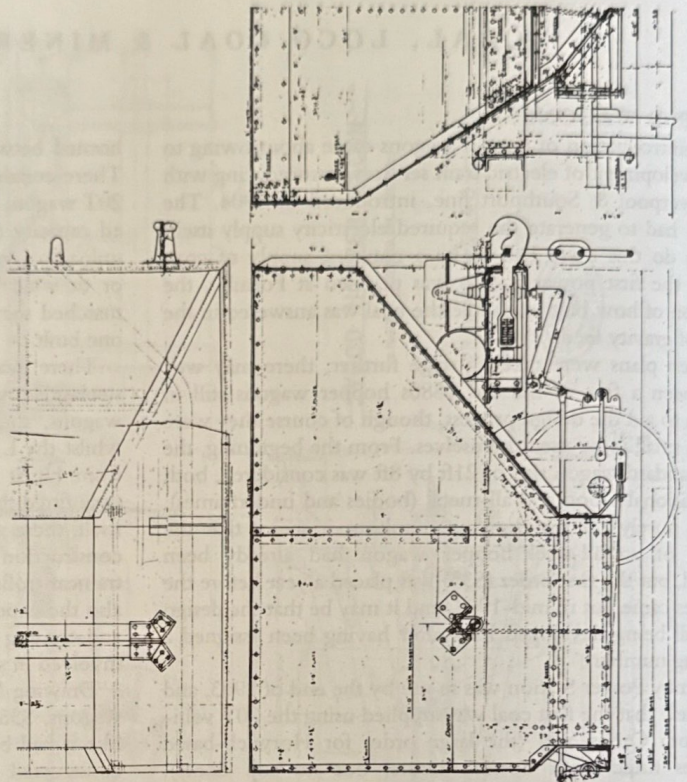


Fig. 125: The internal arrangements culled from Drawing 5123, dated 17th September 1903.

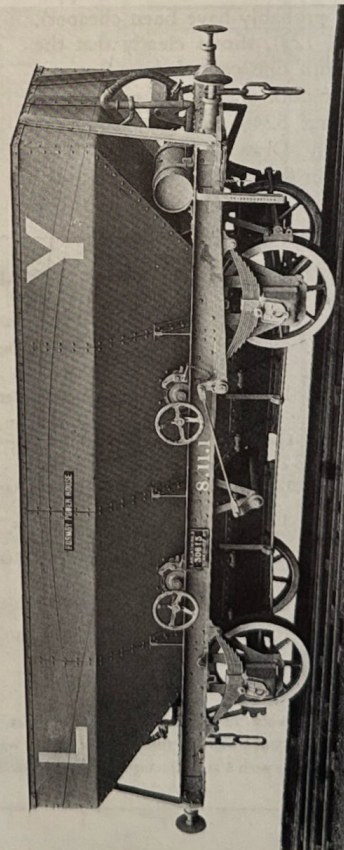


Plate 205: The official photograph of wagon No. 30813 as built and painted in June 1904. The undergear had been left grey for photographic purposes. The triangular fillets supporting the angled sides show up well.

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opposite side of the wagon to the hand-wheels which controlled the opening of the bottom doors. The vertical sides were only 2ft 0¾in high, and the capacity came to 684 cubic feet (cf. that of an early 20T coal wagon at 780 cubic feet), and the designers were perhaps a little optimistic about the expected 20-ton carrying capacity. The drawing is very difficult to follow, so Fig. 124 is a tidied up composite of the two general arrangement drawings showing the two different heights and is, hopefully, much easier to follow. Plates 205 & 206 show the wagons as built, and illustrate just how complex the steelwork was, especially when viewed from inside (Fig. 125). A new Diagram Book page, No. 54, was

created for these vehicles, which received the standard livery and lettering from the very start. One idea borrowed from the brake vans and the new loco coal wagons was an allocation plate, which is further evidence that the L & Y kept these vehicles away from general revenue service, and dedicated to particular tasks.

The usefulness of these new wagons was soon realised, and a second order contained two extra allocations, Horwich and Newton Heath. A further development was the increase in height, so the wagon then stood 9ft 3in above rail level. The extra nine inches added to the side raised the capacity to 809 cu ft, and was done to prevent spillage of the load, as the

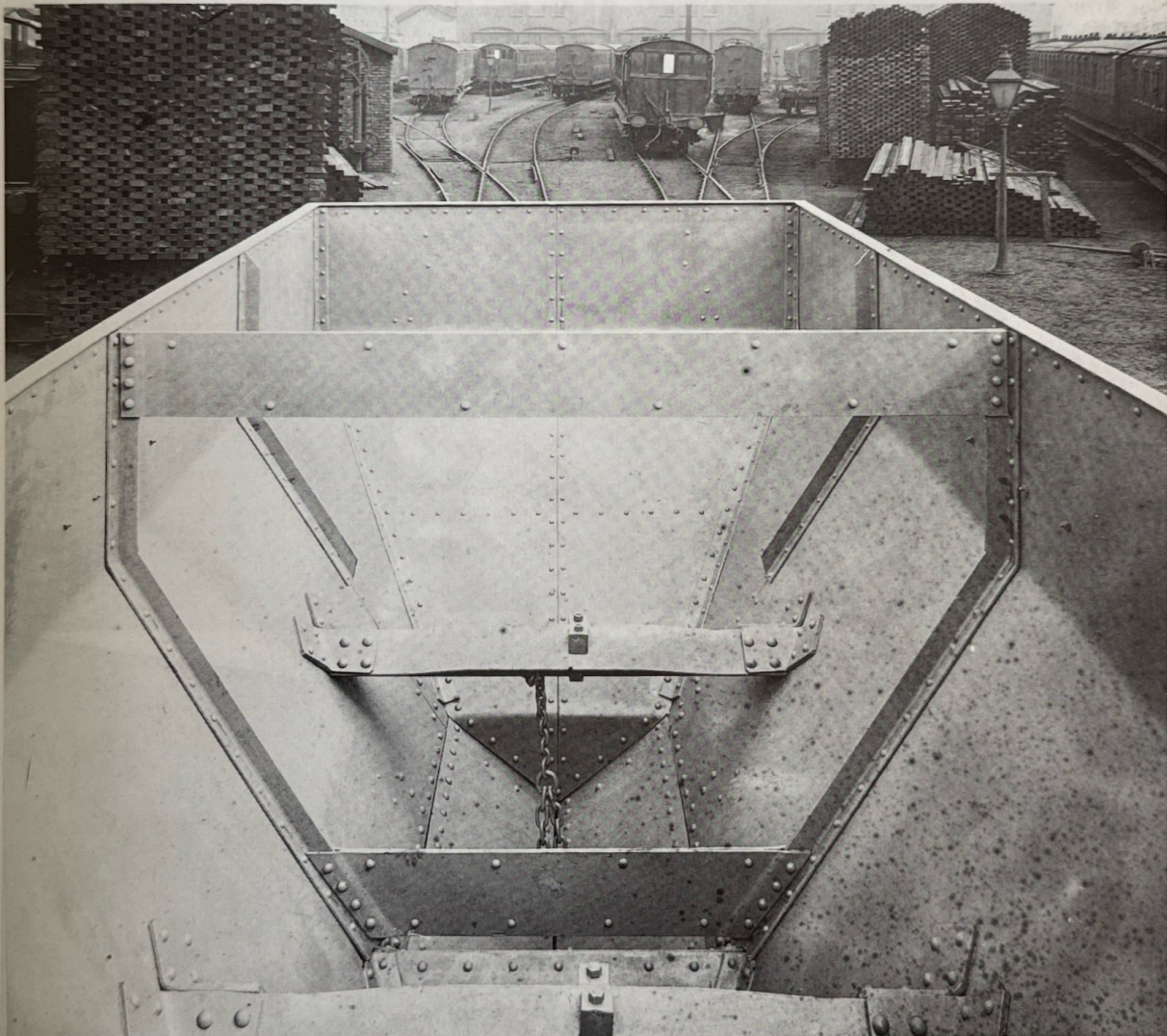


Plate 206. Thankfully, the L&Y saw fit to have the inside of one of the steel hopper wagons photographed when new. The complex system of bracing and covers for the hand-wheel rods controlling the bottom doors show up well. One presumes the poor photographer was balancing his half-plate camera atop a ladder propped against the end of the wagon and probably didn't notice the delights in the background!

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20T rating was retained. The next two orders, G40 and N42, possibly cover the replacement of the old 10T wooden hopper wagons of the 1880s, whilst the final 22 would seem to have been for the forthcoming Manchester & Bury electrification, though they didn't make it in time and some 'Formby' wagons were re-designated 'Clifton Power Station' (Plate 207).

Modifications at Formby increased the height available for wagons, and this made it possible to standardise on the higher size of side. Some wagons were definitely rebuilt (Plate 208), and there is evidence for the interim measure of adding plating to increase the height of the side (Plate 209). Nos. 30785, 30794 and a wagon from the 3080x group were all 9ft 3in in later life, but come from the first order; it is quite likely that the entire fleet of 132 wagons finished up at the full height (Plate 210).

The subsequent history of the wagons is very difficult to follow. Clifton Power Station was closed in 1933, which

probably meant that some of the oldest were broken up soon afterwards. Formby Power House ceased operation in 1946, so more wagons should have been scrapped, yet the Diagram Book has the familiar note 'Breaking up 1951', which suggests that some wagons were still around then (some only 30 years old). One guess is that they could have been diverted to ballast train duty; whilst they weren't absolutely perfect, they would have done the job (some of the expertise developed whilst building these wagons definitely went into permanent way vehicles, as the centre- and side-dumping wagons of Diagrams 78 & 79 show – see Section H). The only post-grouping photograph known shows part of one of the Horwich wagons around 1937 in wagon grey, with the 18in letters 'L M S', a rusting panel where the allocation plate had been, and that legend written in white above (Plate 212); perhaps these wagons were too modern for most photographers, and ended their days virtually unnoticed.

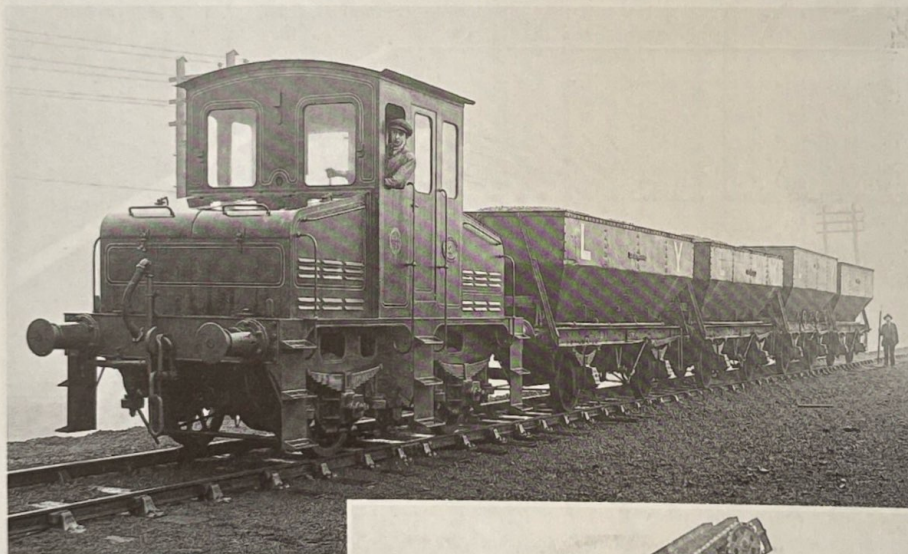
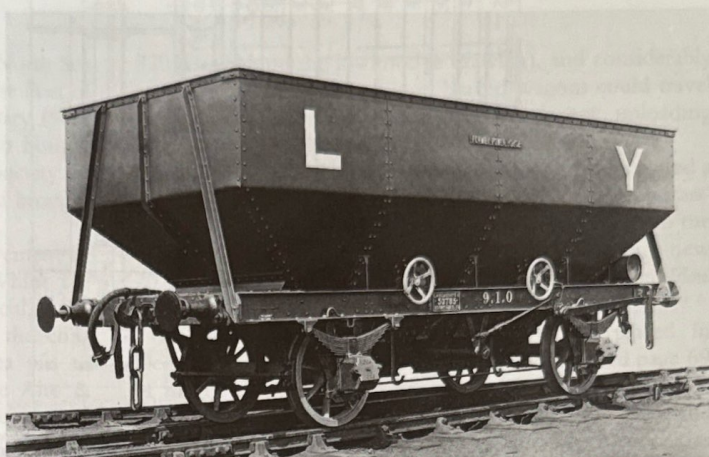
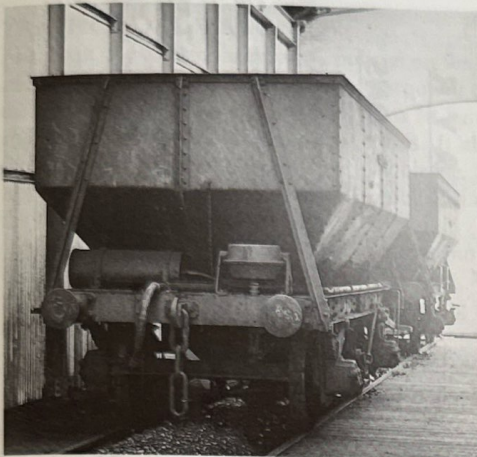


Plate 207. A posed shot at Clifton Junction Power Station in September 1919 with S35 Order wagon No. 30790 still lower height but redesigned for 'Clifton Power Station'. The wagon tared at only 7.19.1 and had a lovely repair on the nearest corner. Fully laden, its buffers seem dangerously lower than those of battery electric loco No. 2.
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Plate 208. The low light against Dia. 54 rebuild No. 30794 shows up the bottom doors and how the vacuum pipe ran along the top of the solebar. Strangely, the first allocation was always termed 'Formby Power House'.

COLLECTION
R. J. ESSERY





Left: Plate 209. Inside the unloading bay at Clifton in early 1915 with the far wagon showing the evidence of additional plating to raise the height of the side. Discharge was direct into the 50T capacity bunkers for each engine eliminating coal handling. Right: Plate 210. Ultimately all the Dia. 54 steel hopper wagons appeared like this. A May 1921 picture of revamped wagon No. 30785 with higher sides, vacuum standard turned down below the headstock, heavier duty buffers and flat-face axlebox covers. The loops attached to the solebar for rope/capstan haulage show up well.

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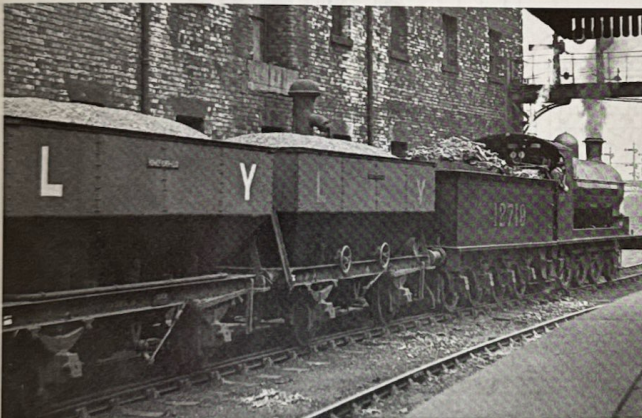


Plate 211. Early LMS days and 0-8-0 No. 12719 waits for a road with a load of coal for Formby. The neat heaps seem to have been of quite low-grade 'slack'.

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Plate 212. The only known post-grouping photograph of a Dia. 54 wagon taken at Horwich in May 1938. The sides of the vehicle were rusting and the only portion of the legend which can be deciphered reads 'TO LOAD TO LMS HORWICH WORKS' above the standard 18in letter 'M'. The wagon number plate reveals only '16080x' but the tare was '8 16 2'.

AUTHOR'S COLLECTION

