LMSCA

The LMS
Carriage Association

THE DROPLIGHT

Newsletter of the LMSCA
No.9 Summer 2004

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Cover design from an Eric Treacy photograph © NRM, Catalogue No. MH-ET LS 769

VIEW FROM THE VESTIBULE

First of all, many apologies for the late running of this issue of The Droplight. Caused not by leaves on the line, the wrong kind of snow, or clouds obscuring the satellite door opening mechanism, but by a move of house.

Once again it has been a busy period for the small band of regular volunteers with much effort being put into both the physical work on our vehicles, and the mentally taxing formulation of plans for future work and important matters such as health and safety policy.

Reading the item on Wolverton Works, it struck me that carriage construction, for so long an important component of our railways, is almost at an end in this country - what a sad turn of events.

One late piece of news is that TK2 3031 (due to be out-shopped as 1501 in 1946 livery) is having some of its steel panelling replaced by beading - look out for more news about this in the next issue of Quarterlight.

Our AGM is due to take place on 16 October, and it goes without saying that we would like to see as many of you as possible on the day.

David Winter (Editor)

Opinions expressed by contributors are not necessarily those of the LMSCA

THE CHAIRMAN'S VENTILATOR

No sooner had the last issue of Droplight been printed we received a letter from The Charities Commission informing us that our application to become a charity had been successful. This allowed us to include a Stop Press insert to inform you all about this important milestone.

The advantages of becoming a charity were described in an earlier issue of The Droplight but the first benefit we have been able to take advantage of has been Gift Aid. This has been extraordinarily successful and has raised a substantial sum in recovered tax on donations and membership fees. If you are a taxpayer and have not yet returned a Gift aid form I would encourage you to do so. More information will be found in a separate article from our treasurer.

In January we were able to move the NRM Third Open into the shed. This allowed us to make a close inspection of the water damage and to make a start on removing that part of the roof requiring replacement. More detail is given in a separate article in this issue.

The exhibition coach, 1930 built period 2 TK, is now waiting for an exhibition to be designed and installed. It is hoped that a grant will be available for a designer to carry out this work to a professional standard.

Before his death David Jenkinson had agreed to prepare a design for the exhibition on the theme of LMS carriages. This, unfortunately cannot be and we shall much miss his vast knowledge of all things LMS, in particular its carriages.

Some of us will be visiting the Carriage Restorers' Weekend on 25 and 26 of September. This year the event is hosted by the Vintage Carriages Trust at Ingrow on the Keighley and Worth Valley Railway, and once again a full programme of demonstrations, talks and guided tours is promised. We will take display panels and show videos of our activities. One item of particular interest will be a demonstration of re-canvassing a roof.

We have applied for membership of the Heritage Railway Association. The fee is modest, but will enable us to tap into a wealth of useful information and advice, in particular regarding the many legal requirements that organisations such as ours face these days.

The second AGM of the LMSCA will be held at Rowsley around the middle of October 2004 and I would encourage all our members to attend. As well as conducting the essential business it will provide an opportunity to meet other members and view the current activities. Full details will be distributed nearer the time.

John Leather

FINANCE REPORT

Since my last report we have been modestly improving our financial strength. Donations remain our main source of income but we can now look to increase the value of these donations by using Gift Aid. So far we have made one claim to the Inland Revenue which amounted to nearly £1000, so you can see what a difference Gift Aid makes. We are now about to make our second claim thereby completing all claims from April 2003 until May 2004 (the end of our financial year). The final Gift Aid total for this period will amount to just short of £1600. We are doing quite well since May too!

For one reason or another some of us are unable to help this way, the prerequisite is that you have to pay income tax first - one way or another. There are of course many ways in which to pay income tax, not simply through your wage packet or salary cheque. For example if you have a building society account, a bank account, shares, bonds and your total taxable income is more than your personal allowances then you will be paying income tax on the remainder.

So if you haven't done so already and you have no personal objections to the scheme, then please do consider `donating' in this way.

The Trustees would like to acknowledge the following members for joining the 'LMSCA GiftAiders':

Keith Battersby
Andrew Bodden
Robert Burgess
Harvey Coppock
Colin Fearnley
Jane Fearnley
Donald Grindrod
Mike Hancocks
Glynn Jones
Alison Leather
John Leather
Adrian Lewis
Derek Mason
Bill Pickup
John Powell
Trevor Riley
Jackie Statham
David Summer
Alan Taylor
David Turnock
Arthur Whitaker

Thank you all.

On a final note, I am trying to arrange our next AGM at Rowsley for sometime next October (2004) in order that we can hopefully avoid the unpleasant weather which we experienced during February earlier this year. It will give everyone a chance to have a look around too.

Derek Mason

MEMBERSHIP REPORT

Thank you all for renewing your membership and an extra thank you to those who filled in the `skills register' forms. It could be we will rarely need to request assistance but it is very comforting to know what skills and knowledge we can call on should the need arise. I have recorded it all on a separate data base for future reference.

I would like to warmly welcome 3 new members so far this year, they are John Powell of Marple, Neil Knowlden of West Wickham and Howard Davies of Bootle.

We would be very pleased to see any of you at Rowsley site; we are usually working in the shed on Tuesdays, Saturdays and some Sundays. If these times are inconvenient and you can e-mail or telephone us, we will try and make special arrangements to meet you there.

Thank you for your continued support.

Alison Leather.

PROGRESS ON LMS 7828

As indicated in the article in the last issue LMS 7828 was moved into the shed in January this year. The first job was to remove all the remaining fittings from the interior to be followed by removal of the roof fittings including torpedo vents and water fillers. These items have been put into safe storage and will be refurbished before re-installation later. All the parts that have been removed have been labelled and catalogued.

The next stage was to remove the wooden gutters and rain-strips. This turned out to be a slow process as the 300 or more steel screws were suffering from corrosion and needed a variety of techniques to remove them. These items are in generally good condition but some replacement will be necessary. The roof covering was of the lorry sheet type laid on in 15 separate strips, probably in the 1960's. The chances of failure in so many joints allowed water to penetrate in some places but the main points of water ingress were through the screw holes of the rain strips which were inadequately sealed.

We then turned to the decaying roof boards and their removal. The fungal growth became increasingly apparent and was seen to `creep' along the tongues of the boards for some distance. The affected boards amount to about one-third of the total. Some of the wooden roof sticks have also suffered decay and have been removed.

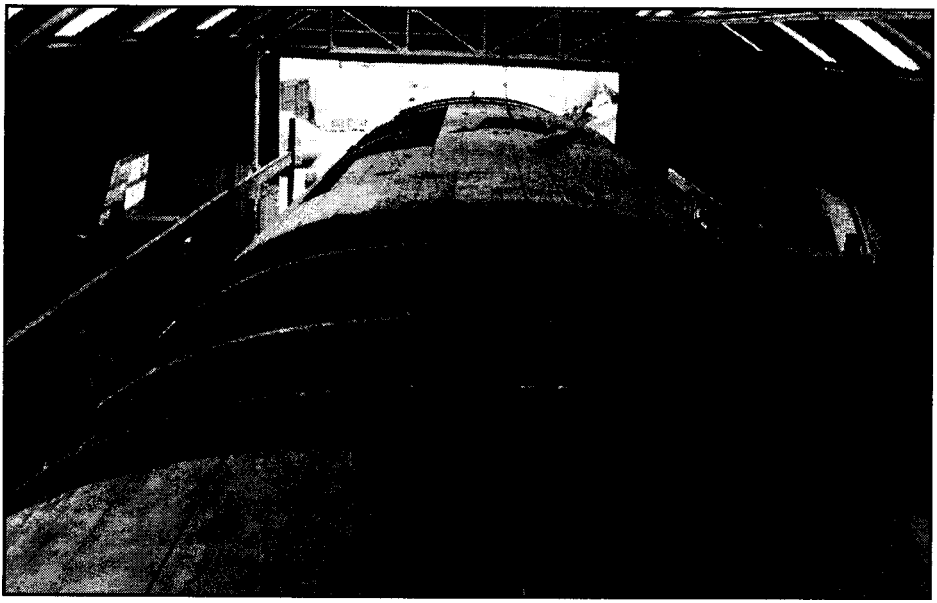
We have had a particular problem in determining the original method employed in constructing the roof. There are several types of roof sticks having various uses. In the absence of the LMS drawings it has been necessary to produce our own drawing based on our observations during the dismantling.

A major problem has been to determine how the roof should be re-instated. The original roof boards were up to 23ft 9ins long, a length that timber merchants can no longer provide. It has therefore been necessary to determine a completely new pattern based on the present maximum length of boards. This will result in 4 lengths of board along the coach rather than the original 3. To achieve this it will be necessary to remove all the boards from the roof and replace them interleaved with the new boards.

It has been necessary to examine the vertical boarding on carriage ends as this would have to be repaired at the same time as the roof if needed. However the condition is generally good although there has been some shrinkage of some of the boards. The ends are currently being cleaned and sanded with some minor repairs to restore them to a usable condition.

We are now required to prepare specifications to obtain quotations for all the necessary materials for the roof. These will then be subject to NRM approval and who will then place orders. The time scale for the next stage of replacing the roof is as yet a bit uncertain but we hope that this will be sometime during the autumn. In the meantime we shall be examining the techniques required for the various tasks including steam bending of roof-sticks, replacing roof boards over a curved surface and the replacement of the canvas roof material all as near as we can get to the original methods.

John Leather



7828's roof will need a considerable amount of timber. *John Leather*

SCOUSE GOLD II

You may recall from the `Winter 2004' edition that some LMSCA members made a trip to Liverpool in order to recover spares from an ex-LMS BTK which was being disposed of. The trip was very successful in terms of recovered items, but we left behind many other components which we couldn't remove until the vehicle was actually cut up. Earlier this year therefore we returned to recover these useful items during the scrapping process.

Amongst the many additional items recovered were the axleboxes, bogie springs, bogie suspension components, one buffer assembly which we had to leave behind and various parts of the brake gear. However the most significant items recovered were two top bolsters from the bogies together with the matching steel castings from beneath the underframe. In layman's terms the bolster is a heavy steel plank attached to the bogie and upon which the carriage body is located. Each bolster weighs something like 2-3 cwt and at its centre has a steel casting with a central hole upon which the body is located by a steel pin attached to the underframe. We were very fortunate to recover these steel castings and pins which were bolted to the underside of the underframe and which mate with the castings on the bolsters. These parts can become damaged and wear so will be invaluable spares for the future.

After a long day's endeavour by Harvey and myself and arranged at very short notice, all the recovered parts were returned to Derbyshire and are now stored to meet future needs. We are content in the knowledge that at least some parts of 5752 (DM395896) ex-Brake Third Corridor built 1935) survive its ultimate fate.

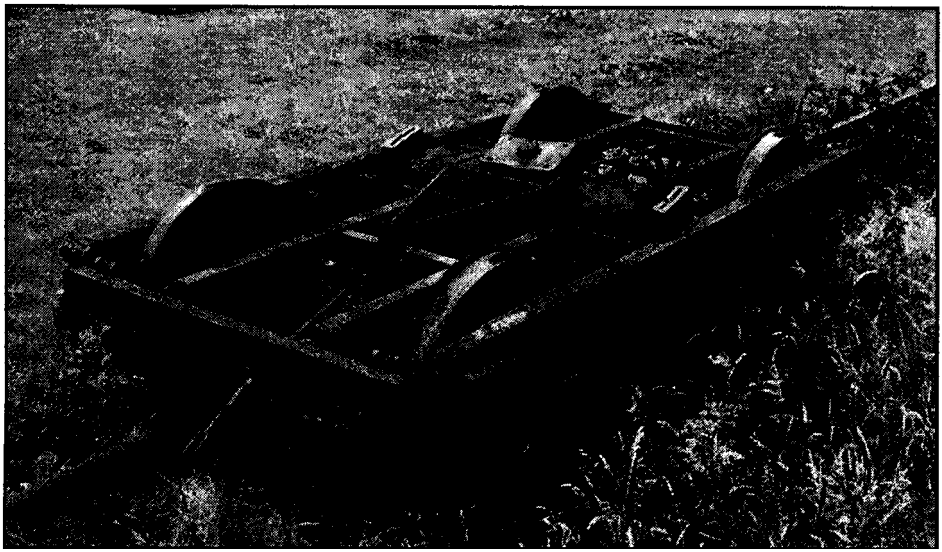
Derek Mason

SUNDAY SHOPPING FOR NECESSITIES

As reported in an earlier edition of 'The Droplight', the charity acquired two carriage bogies from a redundant LMS underframe located at Crewe. More recently it came to our notice that another underframe, this time located on the Northampton Steam Railway Ltd, had been declared redundant and this too was to be scrapped.

The underframe as built was part of a 1928 Period 1 TK number 1428 (Wolverton diagram 1695 lot 388) purchased in 1989 by the NSR. Over time the state of the vehicle body became so dire that the Railway decided to remove it completely and convert the remaining underframe into a flat bed vehicle for the works train. Old carriage underframes have been put to similar uses by other railways but their load carrying capacity is somewhat limited and loading height inconvenient as compared to specially designed vehicles i.e. the `Sturgeon'. The NSR made a decision therefore to replace it with something more suitable to the task and the P1 underframe became redundant.

Harvey and I took a trip down to Northampton on 4th July to inspect it before it



One of the recently acquired LMS bogies. *Derek Mason*

was cut up and decided that in view of the good state of the bogies, we would acquire them. As the complete underframe was to be cut, we asked whether it would be possible to remove the many cast steel parts too, this was duly agreed. We negotiated a fair price and the first bogie arrived at Rowsley on the 27th July with various other heavy bits and pieces. The second bogie and remaining parts arrived a few days later.

This particular purchase may not have the news-worthiness associated with acquiring complete vehicles, however we now have a significant stock of important running gear spares as insurance for the future. If one considers the price paid for say a single set of new replacement drawgear and buffers alone, the cost would amount to more than half that of the entire current purchase. This purchase has been financed solely by two of our members with the help of Gift Aid.

Derek Mason

DID YOU **KNOW?**

That the last vestiges of Newton Heath Carriage Works are no more? A new, extremely large, business park called Central Park is being developed on the sites of the works and the old Monsall Hospital in Manchester. One building had survived next to Thorpes Bridge Junction. It was originally the wheel shop, and had contained a van spares business in recent years, but has now been demolished.

L.M.S.R. EXPERIMENTAL RESTAURANT CARS

This article appeared in the Railway Gazette of 16 May 1947. The cars were not multiplied, but certain features were carried over to be incorporated into the BR Mkls, especially the saloon lighting which was used in the early Mkl opens. This was also the first occasion when the LMS livery was officially referred to as maroon rather than crimson lake. By kind permission of Railway Gazette International. (Ed.)

These forerunners of a series of remodelled dining cars embody a number of welcome innovations

Increased floor and table space, separate chairs, double-glazed windows, and improved heating, lighting, ventilation etc., are outstanding features of two experimental restaurant cars put in service by the L.M.S.R. on Monday last. These cars, which are illustrated with this article, are the forerunners of a series of five first class and five third class dining cars to be brought into service as soon as practicable.

Objects of New Layout

The interiors of the cars have been remodelled from a vestibule car and a restaurant car, with two main objects in view, first, to provide more room for the movement of passengers and restaurant car staff, and second, to introduce standards of furnishing, decoration, and equipment in advance of anything yet achieved within the physical limitations of a railway vehicle.

The use of movable chairs instead of fixed seats in the new vehicles affords a substantial increase in space and considerable freedom of movement. Not only can passengers on the window side leave the tables without disturbing passengers in the chairs on the gangway side, but individual service to passengers by the attendants is facilitated, as the waiters are able to serve from behind each chair.

A new type of table lighting, by means of wall fixtures above each table in conjunction with non-glare ceiling lamps, gives improved illumination. New interior panelling, in plywood and leather, has been designed to conform to the upholstery in a general colour scheme based on the L.M.S.R. colours of maroon, straw, and grey. Double-glazed fixed and sliding ventilator windows prevent condensation and keep the glass clear at all temperatures.

The two cars, both of which were modified in the L.M.S.R. works at Derby, embody the same general layout and equipment, with slight differences in minor fittings. The vestibule car, weighing 32 tons, will seat 42, and the restaurant kitchen car, weighing 47 tons, will accommodate 24 passengers, the length of the vestibule car dining compartment being 49ft. 3 in., and that of the restaurant car, 28ft. 9in.

The seating plan conforms to that of a normal restaurant car, one side of the coach being fitted with small tables seating two, and the other with larger tables seating

four. The single seats at the small tables, and also the double seats against the doorways, are fixed, but all the remaining seats are movable chairs.

An increase in table surface area has been achieved both for small and large tables. The tables have curved sides with square ends, and have been specially designed to give more table surface space, from 25 to 30 per cent. in the large table and up to 50 per cent. in the small table, and to allow the movable chairs to be placed at right angles to the table edge without impinging on the passage-way.

Freedom of Movement

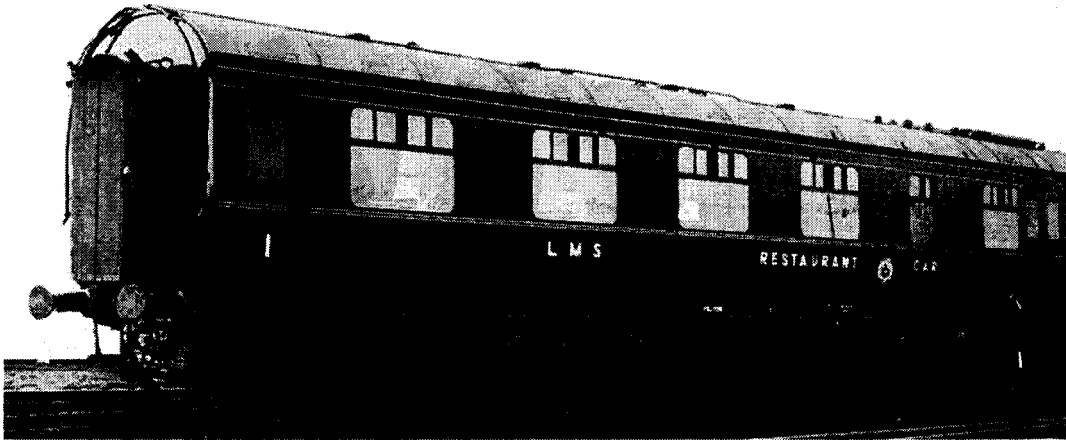
The passage width between table ends is 2ft. 1'/zin., but the new layout makes it appear wider, an effect largely due to the use of the movable chairs which allow attendants to step in behind them and leave the passage-way clear for anyone wishing to pass. As a result, the facilities for the movement of passengers and attendants are greatly improved.

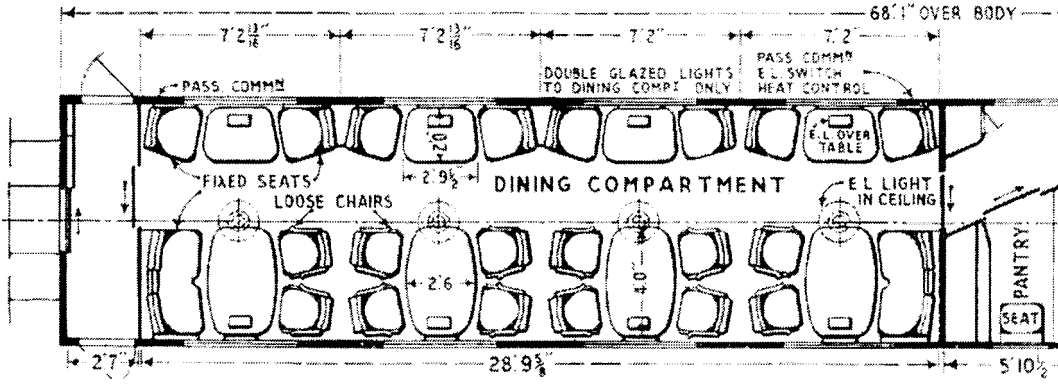
After a number of practical tests, the chair heights were arranged to conform to the new tables, which are 2ft. 41/2in. on height, or slightly lower than the usual hotel table. A new design of table suspension includes rubber insulation to prevent vibration and a single pedestal support to minimise leg obstruction. These adjustments, coupled with the fact that passengers are able to alter the position of the chairs to suit their individual needs, provide maximum comfort possible under restaurant car conditions.

Both the fixed seats and chairs have been designed in polished light birch, with maroon, straw, and grey patterned upholstery, and the types match each other in appearance. All are fitted with Dunlopillo-filled cushions easily detachable for cleaning. The cushions are held in the seat and back-rest frameworks by a special fastener, and both frames have curved edges which shield the sides of the cushions and prevent excessive wear. Upholstery materials have been selected from the first range of fabrics produced in the new standard **L.M.S.R.** colours, and the chairs are fitted with small luggage racks beneath the seats. Plain block letters have been used on the coach exteriors.

As regards internal treatment, the side walls have been finished in plywood panelling coloured and patterned with patapsco in the restaurant kitchen car, and with birch in the vestibule car. A cushion-effect leather treatment, blending with the colour scheme, has been used on the end walls by complete panelling extending from the seat back rest to the ceiling. Metal luggage racks, fitted in the vestibule car only, utilise oval tubes and run horizontally the length **of** each side. Articles automatically slide into a safe position.

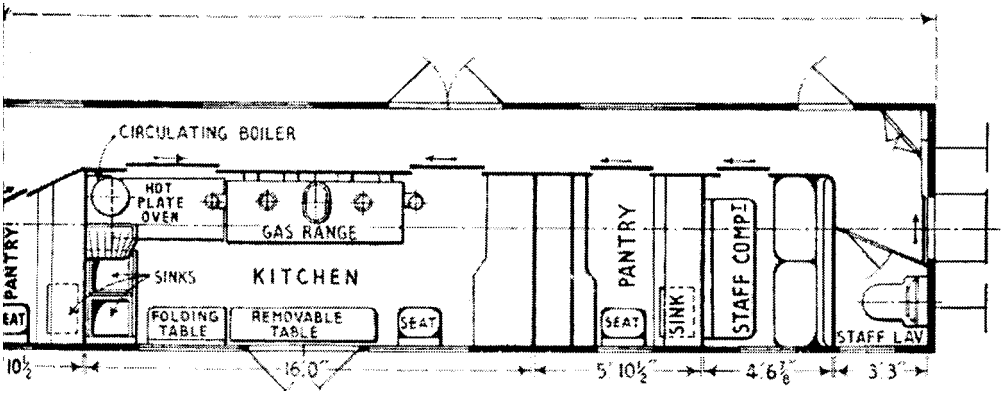
A flush-fitting overall carpet giving additional quietness, warmth, and comfort has been adopted for both coaches, and to minimise the effect of extra wear in the centre passage, the centre strip can easily be removed for cleaning. designed in dark maroon with straw and grey mottling, the carpet material does not readily show up minor stains and marks.





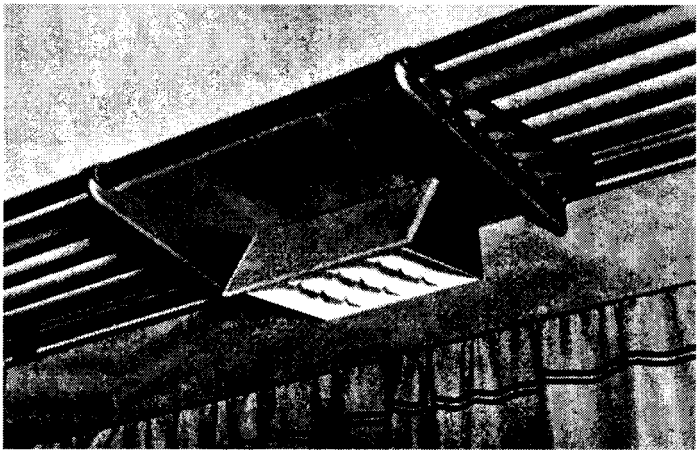
L.M.S.R. EXPER
RESTAURAN

At the top is Car No.43 in the
and an interior view showing
and movable loose chairs. Alth
clear here, while the saloon
post-war short type, the kitc
longer P3 type. At the bottom
FO 7555 showing the lighting
the early Mk1s (close-up on t
curtains are drawn to blot ou
Carriage Sidings or similar! A
at the time shows a particularly
officials - perhaps contemplati



ERIMENTAL ANT CARS

ı the 1946 maroon livery, ring the fixed single seats Although not particularly ɔon sliding vents are the kitchen area retains the ttom left is the interior of ting that appeared later in on the right). Perhaps the ıt out Camden Downside ır! A publicity shot taken ılarly glum group of LMS ɔlating nationalisation?



Door handles, curtain fittings, and other general fittings have been re-designed, and all metal fittings have received a special treatment allowing colour with a durable surface to be incorporated.

After considerable research into the problem of carriage lighting, it was found that maximum eye-comfort could best be achieved by the use of ceiling lamps in conjunction with modified table lighting. A table-light fitting was designed with a series of vanes which direct the light downwards, but prevent glare on the eyes of seated passengers. In the vestibule car, the table lights are fitted to the underside of the luggage rack, and in the kitchen car incorporated in the continuous pelmet which houses the curtain runners. General lighting is provided by newly-designed ceiling lamps. Heating equipment with the steam heating pipes placed in the body sides, instead of in a projecting skirting, has been adopted and by fitting the pipes flush with the integral lining of the coaches, and extra 3in. of space has been gained on each side.

Ceiling ventilation has received an entirely new treatment, the whole of the ceiling centre being dropped slightly to provide an air space along the full length of the dropped section. Used air is extracted through this space by concealed air ducts connected to extractor ventilators on the exterior of the roof . The ceiling of the vestibule car has a pale-pink finish, and the restaurant car pale blue.

The design of the windows for the cars was considered in conjunction with the heating and ventilating schemes, and double-glazing has been adopted for all windows and ventilator-lights in the dining compartments. The consequent reduction in loss of heat from the large area of glass in the cars has eliminated condensation and reduced the amount of heat needed to warm the coaches. The current of cold air which is reflected from normal windows and ventilator-lights has been avoided, and condensation is prevented by the use of absorbent material in the enclosed air space.

The first class restaurant car (No. 43) here described leaves London (Euston) for Manchester (London Road) daily (including Sundays) at 10.20a.m. and Manchester for London at 5.30p.m. the first class vestibule coach (No. 7555) leaves London (Euston) for Birmingham and Wolverhampton daily (Sats. excepted) at 8.55a.m. and returns from Wolverhampton at 4.10p.m. for London.

Mention followed of a demonstration run to Rugby and back, including a long list of officials amongst whom were Robert Riddles, George Ivatt and Ernest Pugson.

DID YOU **KNOW?**

That in 1938 £15,000,000 was spent on materials by the LMS and that there were approximately 230,000 items appearing in the LMS stores catalogue? In the previous year £750,000 was spent on timber for carriages and wagons, including £47,000 on decorative timbers for carriage interiors.

WOLVERTON WORKS IN LNWR DAYS

No excuse is needed for returning to a description of Wolverton Works, but this time as it was in the 1880's. It comes from The Working and Management of an English Railway *by Lt. Col. George Findlay who was General Manager of the LNWR It may have been 'ghost written', but is nonetheless a revealing insight not only into the railway world of the time and its rivalries, but also to the social norms of the time. A description of foot warmers is provided - has any preservationist tried to make one yet?* Ed.

The Midland Company, as is well known, in the year 1875, decided upon abolishing second class compartments in their trains, and retaining only two classes, viz : first and third ; but the success of the experiment is believed by many of the companies to be open to serious question, whether upon financial grounds, or as a matter of public convenience. The London and North-Western Company, at any rate, believe that society in this country, for all purposes, naturally divides itself into three classes, and that the wants and tastes of the community are best served by their present practice, in which belief apparently, they are supported by the great body of railway opinion in the country, since no other company has, so far, followed the example of the Midland Company, with the exception of, to a certain extent, the Great Northern Company.

The London and North-Western Company have for many years built their own carriages at their Wolvcrton works, situated about midway between London and Birmingham. These works cover an area of about fifty acres, and are traversed by what was formerly the main line of the London and Birmingham Railway, but the line has since been deviated, and the old railway has been converted into sidings within the works. In the old days of the London and Birmingham Railway, Wolverton was a kind of "half-way house," and was fixed upon for that reason as the chief locomotive centre; but when the London and Birmingham became amalgamated with other undertakings, some of them reaching to the extreme North and West, and blossomed into the London and North-Western, it was found more convenient to remove the locomotive works to Crewe, and since 1877 the works at Wolverton have been devoted exclusively to the building and repair of carriages and other vehicles used in passenger trains, of parcel carts and vans, omnibuses, station furniture, office fittings, and many other requirements, both for trains and for stations.

For all these various purposes, the carriage department employs 2,234 workmen at Wolverton, besides 489 at other workshops which have been established at Euston and Crewe, and 731 men engaged at out stations in executing small repairs, and in cleaning, lamping, and examining the carriages. In the old days, when a journey of moderate length occupied a much longer time than it does now, the Wolverton passenger station was a very important place, having extensive refreshment and

dining rooms, but the traveller of to-day is only on the threshold of his journey from -London to the North when his train dashes through Wolverton without even deigning to stop there.

With the consent of our readers we will now pay a visit to the Wolverton Works, and endeavour to gain some insight into the method in which the rolling-stock of a great railway is built up and maintained. The smaller companies, of course, do not build their own carriages, but obtain them from one or other of the firms of railway carriage manufacturers in the country.

Entering at the main gateway, facing- the old London and Birmingham Railway, and, for the moment, passing by the extensive ranges of shops devoted to various purposes, which meet the eye, we first visit (by way of beginning at the beginning) the timber stores, containing at all times a two years' supply of the raw materials of which the carriages are constructed. Here we find the spoils of the West Indian and American forests in the shape of huge logs of mahogany, baywood, pine, and Quebec oak, the East Indies being represented by teak, largely used in the framing and fittings of the carriages, while English oak and ash are not wanting.

Overhead is a high-speed travelling crane which, as we are looking on, seizes one of the great logs in its powerful grasp, and lifts it on to two trucks, standing upon a miniature railway of two feet gauge, which runs throughout the works. The log is rapidly run into the saw mill, and is met on its entrance either by a large circular saw, which speedily converts it into planks, or by a frame saw, which cuts it into boards or panels as required. The planks are next cut into scantling of standard sizes, and are sent to the drying shed to season, or if they already consist of seasoned timber, they are at once marked out, and fashioned into the various parts of a carriage by some of the numerous machines of complex construction and bewildering variety which maybe seen on all sides, performing the most complicated operations with the utmost apparent ease and rapidity. Meanwhile, however, we follow our log of unseasoned timber in its new form of planks, or scantling, to the drying shed, where we are shown timber of every description, and of all shapes and sizes, stacked symmetrically, and with the greatest neatness and exactitude, for seasoning, together with piles of mahogany panels, and of veneers of walnut, sycamore, ebony, and various other decorative woods, used for ornamental purposes. These are all labelled and dated, and receive, we are assured, as much anxious care and attention as a connoisseur would bestow upon his bins of choice vintages, for much depends upon the skilful selection and preparation of the materials from which the carriages are built.

The parts and sections, which we have seen cut out of the seasoned timber in the saw mill, are run by means of the small tramway into what is termed the "body shop," where they are put together by the coach-makers, and begin to assume the rough outline of the body of a carriage. This is raised by a crane, and lowered on to the under-frame already prepared for it, and which is constructed of channel steel,

with Mansel wheels and radial axles. The vehicle, in its rough state, is next taken forward to another shop, where it undergoes long and tedious processes of rubbing-down, painting and varnishing; and meanwhile, the internal fittings, linings, and other upholsterers' work, which have been prepared in various shops devoted to such purposes, are put in, and the break (sic) gear and gas fittings are added. Finally, when the carriage is quite complete, it is placed in a cool airy shed, for the paint and varnish to thoroughly harden, before it is turned out for use in trains.

The making of the wheels for the carriages is a very interesting process, and will repay a visit to the wheel shop. The wheels are made without spokes, the centres being solidly built up by segments of teak compressed by hydraulic power. Passing the formidable double row of wheel lathes, which, with apparently very little attention from the workmen, are cutting long spiral shavings of steel from the tyres very much as one pares an apple with a sharp knife, or boring out tyres, and cutting the grooves for the retaining rings, which, when in position render it impossible for the tyre to leave the wheel, even if it is broken into several pieces, we arrive at the machinery by which the wheels are finally put together. A steel tyre, spun from a solid block of Bessemer steel, without a weld, is swung up by a hydraulic crane on to the press, the teak segments, already cut and shaped with the greatest nicety by an automatic machine in the saw mill, are placed in position within the circumference of the tyre; the press is closed up, and a handle is turned, which sets the hydraulic ram in motion. Soon we hear the solid teak blocks begin to groan as they are forced into the tyre, and with a few loud thumps they are driven home, when the press is opened, and the woodcentre is seen to be as compact as if it were fashioned out of one piece of timber. Nothing remains but to add the retaining ring and boss plates; another hydraulic press forces the wheel and its fellow on to the axle and keys them up ; and one more pair of wheels is added to the many thousands that are ceaselessly rushing to and fro upon the iron highway.

Making a tour of the premises, we shall observe that there are special shops and rooms for almost every portion of the work which has to be carried on. Here for instance, is a shop devoted to the fine cabinet work required for the internal fitting and decoration of the carriages, and close at hand is a room where a staff of girls is employed in French polishing. The body shop, paint shop, and drying rooms, we have already seen ; but here is a carpenters' shop, where furniture, ticket-cases, barrows, and similar articles are made ; a smithy, where brawny workmen are wielding the heavy sledge-hammers, and fashioning all kinds of intricate ironwork; a spring makers' shop ; brass and iron foundries, where casting is going on, and the molten metal is spurting from the cupola furnaces ; a lamp shop, with its deafening sound of the ceaseless tapping of tinmen's hammers, and rooms where women are busily engaged in cutting out and making up the trimmings and linings of the carriages ; while everywhere we cannot fail to be struck by the ingenious mechanical appliances which minimise the labour, and secure uniformity in the work, although these are too numerous and complicated to be described.

Before leaving the works we must pay a visit to the laundry, where some half-dozen women are engaged in washing the linen and towels used in the saloon carriages, all of which are sent to Wolverton daily to be washed, in exchange for a clean supply, about 4,500 articles being thus dealt with every week, Most of the work is done by steam, supplied by a small vertical boiler, the linen being dried in a hot closet, and very scrupulously aired before being sent away, so that passengers never need have before their eyes the fear of damp sheets, in the sleeping saloons.

It is a somewhat interesting sight to watch the operation of paying the large number of men engaged in these works ; and the method employed to facilitate the task, and avoid mistakes or disputes, is not without ingenuity. The whole of the men employed are numbered consecutively from one upwards, and at pay-time they arrange themselves in numerical order in a large yard, so as to form a queue, and pass the pay-window in single file. Each man, as he passes the window, hands in his pay check, and receives in return a tin box stamped with his number, and containing his wages. At the end of the passage is a receptacle, into which he throws the empty box, this being considered his receipt for the money ; since any question as to the correctness of the amount must be raised before he parts with the box. The money is, of course, counted out and placed in the boxes beforehand, and so simple is the process, and so expert are the clerks employed, that the whole of the men, upwards of 2,000 in number, are paid and the business is at an end in less than half-an-hour.

The physical and moral welfare of the men are not lost sight of, but are promoted in many ways. There is, for instance, a spacious dining-hall, with accommodation for 1,000 men, each seat being provided with a coffee can and cup, and a cooking tin. Adjoining the dininghall are large kitchens fitted with ovens, boilers, and hot-plates, where the workmen can either procure their meals at a small cost, or can bring their own provisions, and have them cooked free of charge.

Near the works are schools, largely supported by the Company, where the children of the workmen are educated for a very small fee, while near the schools is a Science and Art Institute, a handsome brick building, in which so much good work is being done, that an extension of the premises will very shortly be necessary. The Company have provided also a spacious recreation ground near the station, and the men can boast of a promising amateur athletic club, cricket and football clubs, and a strong and efficient company of the County Volunteers.

Wolverton, to a great extent, resembles Crewe in being a railway colony, the inhabitants of which are all engaged in one occupation, and although a considerable number of young women are employed in the works, there were formerly a great many girls, the daughters of the workmen, who could find no occupation. Seeing this difficulty, Messrs. McCorquodale and Co., the Company's stationery contractors, considerately came to the rescue, and by erecting a large envelope factory in the immediate neighbourhood, have provided suitable employment for the surplus female population.

Apart from the carriage works at Wolverton, the superintendent of the carriage department has under his orders, at what are termed " Out-stations," a staff of nearly 1,200 men, who are engaged in the repair, examination, greasing, lamping, washing, cleaning, and warming of the carriages throughout the system, and it may be useful to give some account of the manner in which these very necessary operations are carried on.

Examination.-About one hundred carriage examiners are employed, who are stationed singly or in small gangs at the most important stations and junctions from one end of the line to the other. Before any man is appointed to a post of this kind he must have had previous experience in the lifting and repairs of carriages in the shops, and it is his duty to carefully examine the wheels, springs, and other running parts of all carriages standing at, or passing through, his station, tapping every wheel-tyre with his hammer, so that his experienced ear may detect by the sound whether they are in good order and without flaw. Where no special staff of coach repairers is employed, the examiner has also to attend to slight repairs of internal fittings, defective locks, etc.. At the more important stations pits are provided between the rails to enable the examiners to get beneath the carriages to inspect the under-gear.

Greasing.-This is attended to by men stationed at the principal stations and junctions under the orders of the examiners, their duty being simply to examine the axle-boxes of every carriage passing through their station, and replenish them with oil or grease when required.

Washing.-Every carriage is washed outside with water once each day, the water being usually obtained from cast-iron tanks let into the ground, with a selfacting ball-valve. The buckets can thus be filled instantaneously, without the loss of time involved in drawing water into them from a tap. At the large stations there are sheds specially provided for carriage washing, having wooden stages the height of the carriage floors, alongside each line of rails, with wroughtiron troughs running the whole length of the stages, which by the ball-valve arrangement are kept constantly full of water. Periodically, of course, the outsides of the carriages require something beyond the simple washing with water, and have to be thoroughly scoured with soap or some cleansing composition. The equipmerit of each " washer " consists of a bucket, a long-handle brush, with which he can reach from the ballast, if need be, the tops of the carriages, and a small spoke-brush for getting into corners, etc.

Cleaning.-The " cleaners," of whom a large number are employed, attend to the insides of the carriages. They are provided with a bass broom, a hard hand brush, and a soft one, a wash leather and a linen duster. They are expected to shake each carpet, well brush the linings and cushions, clean the windows, and finally to dust the whole carriage throughout.

Heating of Carriages.-During the cold weather, that is to say generally from the l" November to the 31" March in each year, every compartment of each class is

supplied with at least two foot-warmers. The ordinary foot-warmer is an oblong tin, filled with water through an orifice which is then hermetically sealed, and the warmer is placed in a boiler until the water is heated. A patent foot-warmer has, however, been introduced, and is now in use on all the main lines, in which the water is replaced by acetate of soda. The utilisation of crystalised acetate of soda for this purpose is of comparatively recent introduction, the advantage consisting in the fact that the heat, before it has altogether disappeared, can be restored by merely shaking the receptacle, and that the heat is retained nearly three times as long as in the ordinary hot-water tins, viz., for about 5 hours, thus avoiding the inconvenience and annoyance to passengers of continually changing the foot-warmers on a long night journey. The acetate of soda used for this purpose should possess a slightly alkaline re-action to litmus test paper, and should be commercially free from sulphate-chloride and carbonate of sodium, as well as from acetate of lime. It should not possess any unpleasant odour of tarry matter, and its total impurities should not exceed 2 per cent. The warmers are charged in the following manner: -The acetate of soda is first placed in a large iron tank and reduced by heat to a liquid, of which seven quarts are placed in each warmer. Seven ounces of water are added, and two cast iron balls, each two inches in diameter, and weighing 20 ounces, are placed inside. The aperture at the end, through which the liquid has been introduced, is now covered by a cap, soldered down, with a small hole left in the centre. The warmer is placed in another tank, and the contents again brought to boiling point, when the receptacle is hermetically sealed, and is then ready for use.

The sleeping saloons in the through trains between London and Scotland, Holyhead, Liverpool, and Manchester, are warmed by means of high-pressure hot-water pipes, each saloon being supplied with a small heating apparatus for the purpose.

This chapter continued with a long description of train lighting with gas, and an experimental electrical system that used a steam-driven dynamo on the locomotive.

TIME SPENT WISELY

It is our custom, mainly for insurance purposes, to record shed working times and it soon became obvious that it would also be useful to identify how much was being spent on individual projects. Costs are based upon unskilled labour priced at £6.25 per man hour (£50 per manday) which is the rate used by the Heritage Lottery Fund for calculating matching funding contributions. So the results for the last financial year from 1st June 2003 to 31st May 2004 are as follows:

Project	**Time (hours)**	Equivalent cost (£.p)
3031, LMS period 2 TK	713	4456.25
7828, LMS period I TO	441	2756.25
Carriage shed building	134	837.50
TOTAL	**1288**	**8050.00**

Derek Mason

DAVID JENKINSON - HE GOT THINGS DONE

Hundreds of words of tribute have been written about the sad passing of David Jenkinson, perhaps most movingly by his long-time collaborator Bob Essery. Their extremely productive relationship spanned some forty years and led to an evidence based standard of railway modelling that is now virtually the norm. The off shoot of the blossoming of research amongst enthusiasts means that as far as British railways are concerned only the most obscure items remain unmeasured or photographed, which has made the work of preservationists much easier.

My earliest recollection of David Jenkinson was an article in the Railway Modeller about his EM gauge layout 'Marthwaite', a market town terminus based on a fictional Midland Railway branch from his beloved Settle to Carlisle line. It looked wonderful to my inexperienced eyes, yet in the text he several times referred to rolling stock and locomotives that were not appropriate for the layout, a hint of his constant search for perfection. Before long, a series of articles with an LMS theme began to flow from David and Bob, at a time when the GWR reigned supreme, especially as far as the model manufacturers were concerned.

Books on many aspects of the LMS and Midland followed, but the most important for many of us LMSCA members was *The LMS Coach,* later expanded to *The Illustrated History of LMS Standard Coaching Stock* in three volumes. Within these pages the spark of interest was stimulated and nourished to the point where `let's restore an LMS coach' became almost an imperative for some of us.

His career at the NRM led to many acquisitions and restorations, indeed it seems he roamed the system on the look out for suitable stock and items to add to the national collection, sometimes it must be said not going through `official channels', but he was a man to get things done, which we must be grateful for. Of course TO 7828 is with us now thanks to his project to create a joint LMS and LNER set for steam specials.

As far as the LMSCA was concerned, he expressed his support and interest from the outset, became a member, and no doubt in due course we would have asked him to become our president. He came along to help us with the charitable status application by reporting on our collection and was prepared to design our exhibition coach interior before his untimely death.

His letters, always on paper headed by a Midland Railway Pullman car, were stimulating to say the least, and it is sad to think we will not have his sometimes forthright input any more.

But it's up to us now, and maybe that's part of his legacy.

David Winter

THE LMSCA VEHICLES

P1 TK No. 1371 built in 1924. Renumbered 1295 from 1933. Departmental service number KDM395498. Later internal user number 024744. Originally constructed as a third class corridor carriage at the L M S Derby Carriage and Wagon works to diagram 1695. Dimensions 570" x 8' 10'/2".

P1 RK No. 30005 built 1924. Constructed as a Full Kitchen Car (RK) at the LMS Derby Carriage and Wagon Works to diagram 1697. Renumbered 30005 from 1933. After withdrawal from revenue earning service, converted in 1956 to the London Midland Region Track Recording Coach. Renumbered to departmental stock as DM395223. TOPS code: QXX. Dimensions 50'x 9'3".

P1 TO No. 7828 built 1925. On 10 year loan from the National Railway Museum. Originally numbered 16122 - one of 555 vehicles built at Derby to diagram 1692, the most common LMS Third Open. Became part of a 'Control Train', and was partially restored by the NRM at Derby. Dimensions 57'x 9'3"

P1 BCK No. 6720 built in 1929-30. Renumbered 9864 from 1933. Departmental service number TDM395845. Originally constructed as a composite corridor brake carriage at the L M S Wolverton Carriage and Wagon works to diagram 1704. Rebuilt to Period 3 outline around 1940 to diagram 1704A. Dimensions 60'0" x 9' 0".

P2 TK No. 3031 built in 1930. Renumbered 1501 from 1933. Departmental service number DM395801. Originally constructed as a third class corridor carriage at the LMS Derby Carriage and Wagon works to diagram 1782. Dimensions 60'0" x 9'0".

P3 BCK No. 6815 built in 1935. Departmental service number DS70247. Originally constructed as a composite corridor brake carriage at the L M S Wolverton Carriage and Wagon works to diagram 1932. Dimensions 62'0" x 9'0".

P3 TO No. 9125 built in 1935. Departmental service number KDM395892. Originally constructed as a third class open carriage at the L M S Wolverton Carriage and Wagon works to diagram 1915. Dimensions 57'0" x 9'0".

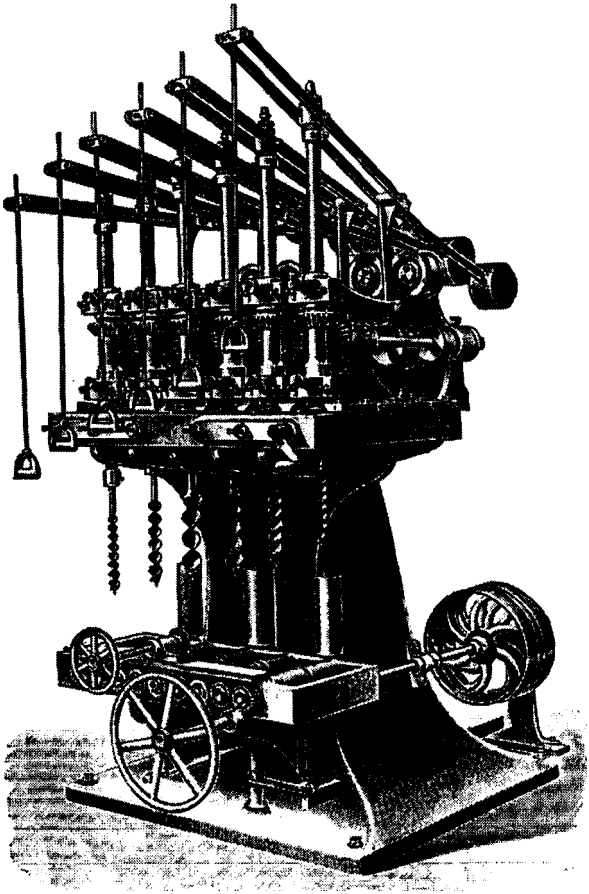
P3 TO No. 27109 built in 1945. In departmental service carried the number 65830. Originally constructed as a third class open carriage at the L M S Wolverton Carriage and Wagon works to diagram 1999. Dimensions 57'0" x 9'0".

P3 (Porthole) BTK No. 27001 built in 1950. Sold direct out of service to the Manchester Ship Canal. Originally constructed as a third class corridor brake carriage after nationalisation at the ex-L M S Wolverton Carriage and Wagon works to diagram 2161. Dimensions 57'0" x 9'0".

P3 BG No. 31216 built in 1941. Eastern Region Internal User 041542. Donated to the LMSCA by Jarvis Rail after being stored for 20 years in Wakefield Kirkgate goods shed. Built at Wolverton to diagram 2007. Dimensions 50'0"x 9'0".

Mk1 GUV No. 86183 built in 1958. Renumbered 83183. Originally constructed as a general utility van for British Railways by the Pressed Steel Company Ltd. to diagram 811. Dimensions 57'2" x 8'9".

Mkl CCTs Nos. 94522, 94589, 94630 built in 1960. Donated to the LMSCA by Jarvis Rail as BG 31216 above. Built at Earlstown.



The new piece of machinery was causing a few health and safety worries.

Back Upper: A corner of a First Class Dining Car. ***LMS***
Back Lower: Semi-Open First 1023 enjoys a rare outing at Bury. *Keith Battersby*