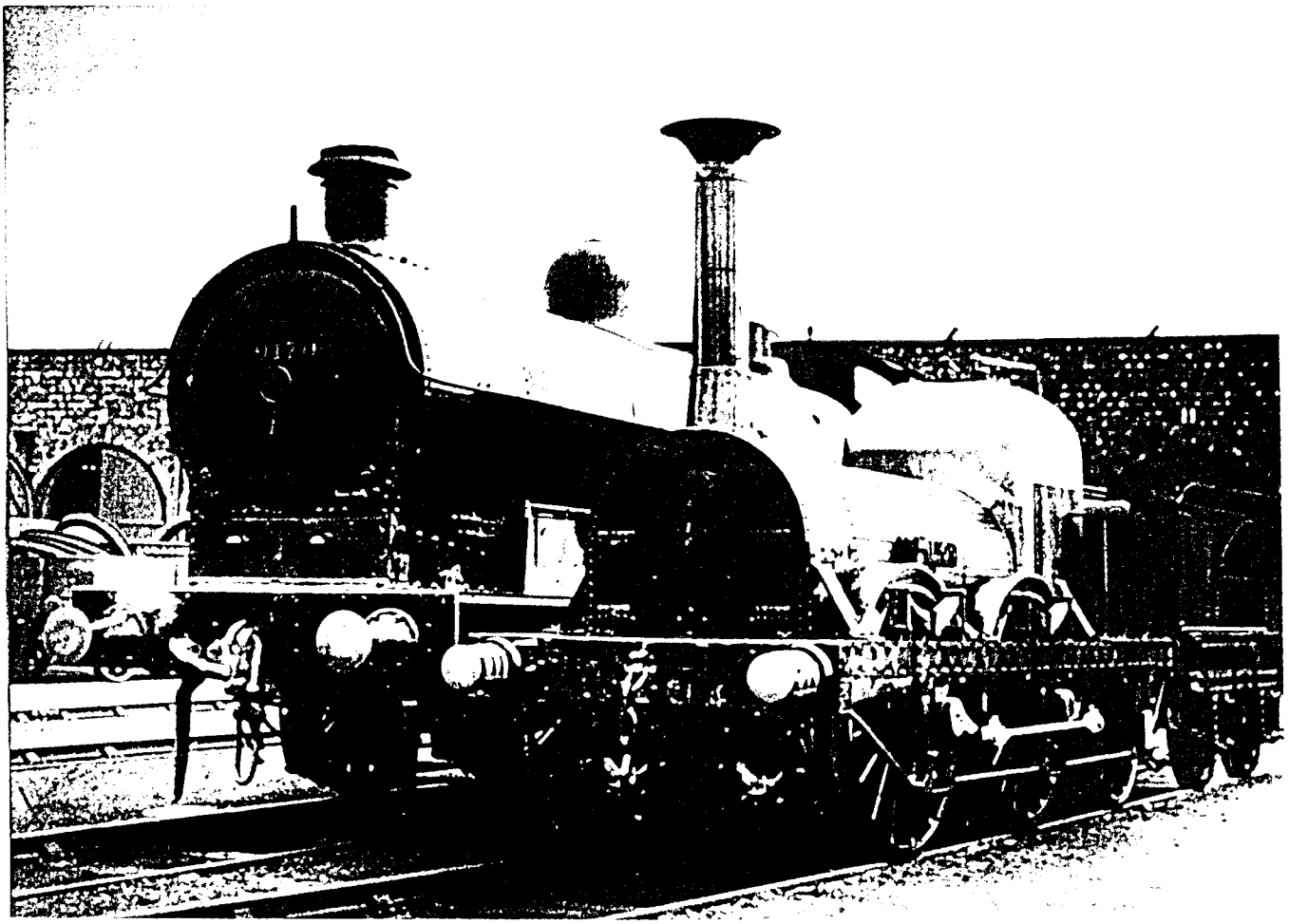
THE OCCASIONAL NEWSLETTER OF THE OLD LOCOMOTIVE COMMITTEE

LIONSHEART

JANUARY 1991



The above archive photograph, kindly supplied by Eddie Ball, shows LION at the Crewe works of the L.M.S., dwarfed by one of the ex-L.N.W.R. 8-coupled goods locomotives.

ON OTHER PAGES:

LION REPORT

The long period of storage has taken its toll and before LION can steam again, the boiler will require re-tubing.

Because of major changes taking place within National Museums and Galleries on Merseyside, Liverpool Museum does not currently have suitable workshops where this work can be carried out. So LION is on the move again to Manchester Museum of Science and Industry where new tubes can be fitted and general maintenance work carried out.

THE 1990 A.G.M.

The Sixth AGM was held at the Kirkfield Hotel, Newton-le-Willows on the 5th May last. It was attended by 16 members. The secretary reported receipt of apologies from Mr C Taylor, Mr J G Drummond, Mrs Chitty, Mr E F Clark, Mr A T Webb, Mr K Battersby, Mr A Guest, Mr J A Barnes.

The Minutes of the Fifth A.G.M. (copied below for the benefit of those members unable to attend the Kirkfield Hotel A.G.M.) were presented.

Minutes of the Fifth Annual General Meeting of OLCO held at the Chatsworth House Hotel, Llandudno on Saturday 28th May 1989

The retiring Chairman, Mr. E. F. Clark, welcomed members and thanked Bob Stark, Basil Jones and members of the North Wales M.E.S. for making the arrangements for the Re-enactment to be held on the following day, before moving on to the Agenda.

5.1 Apologies for absence: These had been received from Charles Taylor and Dennis Gadsby.

5.2 Minutes of last A.G.M.: These had been circulated and were taken as read. It was proposed bu Alan McKirdy and seconded by Eddie Ball that they should be taken as a correct record. This motion was passed unanimously and the Chairman signed them.

5.3 Executive Officers' Report: Circulated and taken as read. Adoption proposed by Charles Taylor-Nobbs and seconded by Jim Mercer. This motion was passed unanimously.

5.4 Report from North Western Section: Barry Smith addressed the meeting on an informal basis.

5.5 Accounts: Copies of the accounts were circulated and, in the absence of the Treasurer, these were read by the Secretary. Adoption of accounts was proposed by Barry Smith and seconded by Alan McKirdy. This motion was passed unanimously.

5.6 Rates of Subscription: In view of the healthy financial situation, the Executive proposed freezing subscriptions from April 1990 at £6 individual, £8 family and £12 institutional. This motion was proposed by E.F. Clark and seconded by Charles Taylor-Nobbs. This motion was passed unanimously.

5.7 Election of Executive Officers: The Chairman noted that he, Charles Taylor-Nobbs and David Neish were ineligible for re-election. He paid tribute to the work of all the Executive Officers and thanked them for their support. The nominations were:-

Alan McKirdy	(Chairman)
Jan Ford	(Secretary)
Eddie Ball	(OLCOSALES)
Barry Smith	(Engineering)
Charles Taylor	(Treasurer)
Mike Parrott	(Model Eng.)
Peter Servis	(Editor, Lionsheart)

There being no other nominations, the above were elected unanimously.

5.8 Report from National Museums on Merseyside: The new Chairman took the chair and invited Miss Loraine Knowles to address the meeting. Her address was reported in LIONSHEART. Following the address, Miss Knowles answered member's questions.

5.9 Any other business: Eddie Bellass gave a verbal report on developments at Crewe Heritage Centre. David Neish announced that the 1989 LIONSMEET would be held on 27th August 1989 at Cheltenham.

There being no other formal business, the Chairman thanked those attending and closed the meeting.

Adoption of these minutes (subject to correction of a misprint in the Treasurer's title) was moved by Mr D Neish, seconded by Mr E Bellass and carried unanimously. The Chairman accordingly signed the minutes.

The Executive Officers presented the following brief written report on the year's activities:-

THE 1990 A.G.M.

Report of the Executive Officers' to the Sixth Annual General Meeting

Immediately following the fifth A.G.M. at the Chatsworth Hotel, Llandudno, members enjoyed an impromptu film show, of LION's birthday celebrations and archive footage of the June 1937 filming on the North Wales main line.

In the evening, OLCO members enjoyed a splendid meal together with members of the North Wales M.E.S.

Next day, the Re-enactment was held at the North Wales M.E.S. track in Llandudno. The arrangements were splendid, the weather was superb - it's a pity more people were not able to enjoy the memorable day.

In May, LION was moved by road from Birmingham (where she had spent the previous winter) to Dinting (where she was to spend the next winter).

On 1st July, the North Western Section held a successful Barbeque at the home of Vernon Smallwood.

The 1989 LIONSMEET was held on 27th August 1989 at Cheltenham. This is a delightful setting and again the weather was kind. Again, it's a pity more members could not have supported the event.

On the 21st and 22nd October, OLCO had a sales stand at the Railway Weekend at the Manchester Museum of Science and Industry.

Following ultrasonic testing of the firebox at Dinting, the Museum determined that Lion should return to the Transport Gallery in Liverpool. This move, by road, was carried out in April 1990.

The Chairman, Mr Alan McKirdy, amplified the report, stating that LION was not laid-up after Tyseley and, because of corrosion, requires retubing. The ultrasonic tests were satisfactory but the insurer was unhappy with the result. The Museum will accept help from an OLCO working party in restoring LION. The Chairman reported that he had met Mike Stammers, the 'overall supremo' of the Liverpool Museum the previous day. The Museum will establish a conservation department in the Great Western Shed, but this is not a current priority. The Chairman suggested that OLCO had not been involved because of communication difficulties but Miss Loraine Knowles, representing the Museum at the A.G.M., disagreed, stating that the Museum had been in touch with various members throughout the year. She continued that

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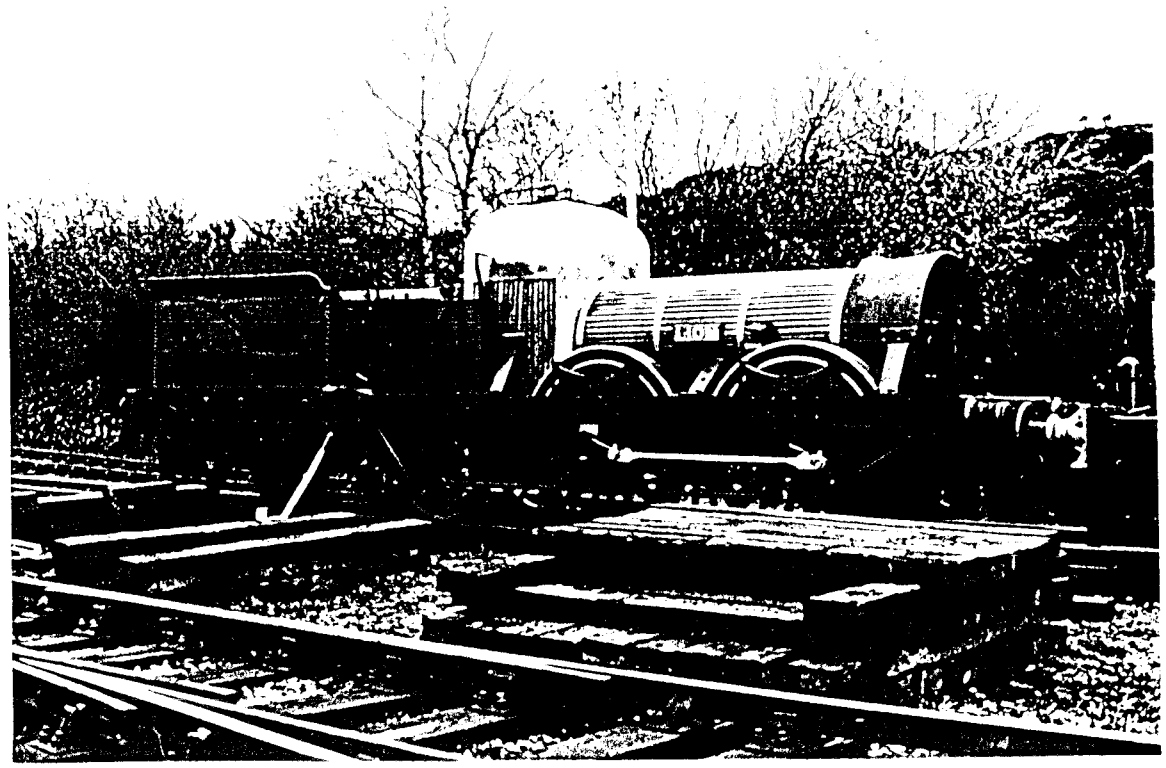
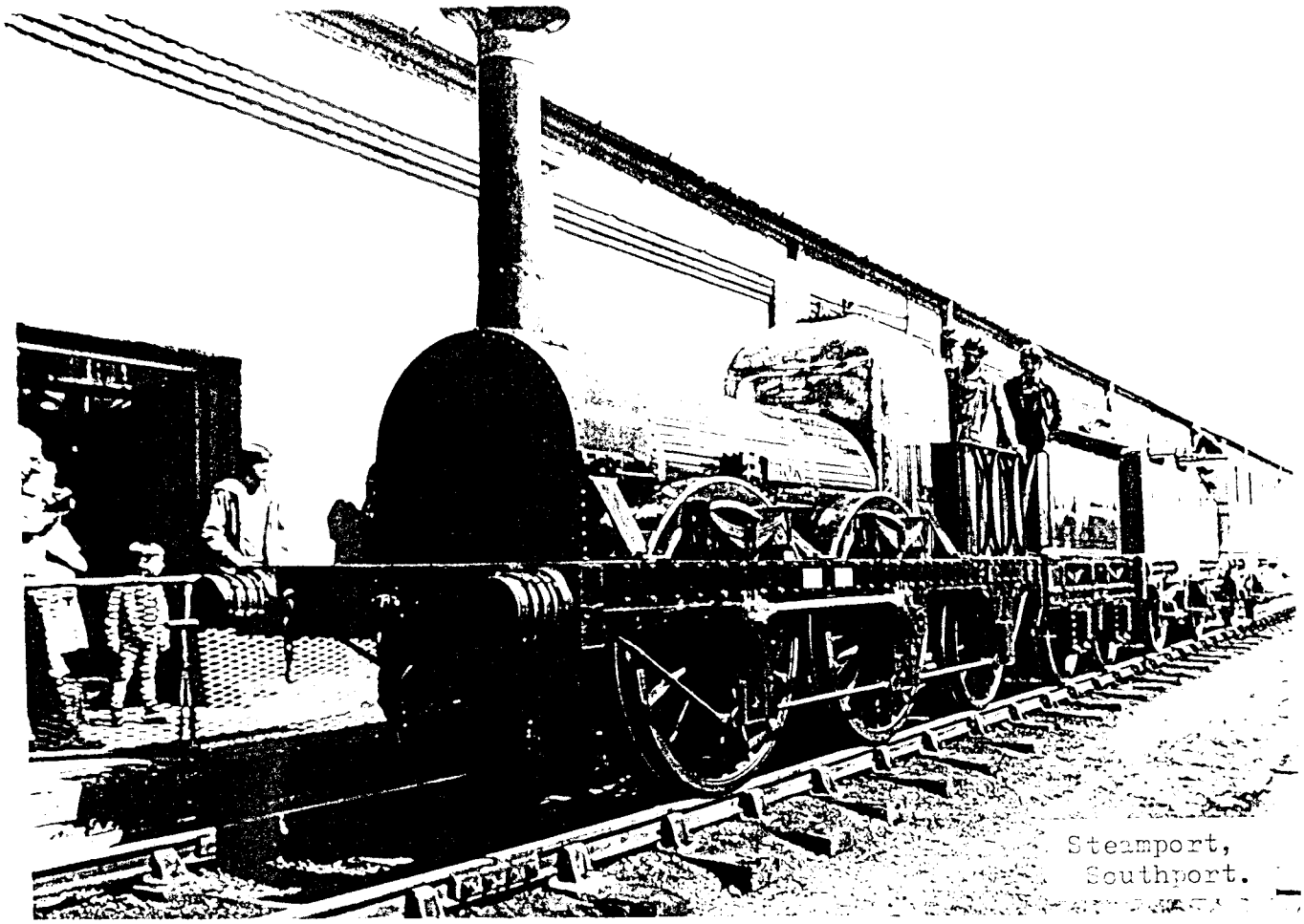
We are indebted again to Eddie Ball for this view of LION (temporarily less chimney) at Dinting during preparations for her birthday year.

Alas, Dinting is no longer a steam centre and LION cannot repeat the memorable and enjoyable runs on that demonstration line.





Steamport, Southport.

During LION's 150th birthday celebrations, she was a popular performer at Southport Steam Centre. 'Steamport' (as they were then known) supplied this splendid study of LION on their demonstration line.

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her concern was to get LION secured and recommended that OLCO co-ordinate their communication and perhaps have informal meetings with the Museum.

Mr Charles Taylor-Nobbs commented that a post-mortem on how and why was not helpful, we should now get on with it.

Mr Vernon Smallwood asked where the money was coming from for re-tubing. It was commented that Mr Peter Barnard of Crewe Heritage Centre was expecting a grant and had hoped to be present at the A.G.M.

Miss Knowles stated that the Museum receives many enquiries asking 'where is LION?' and that the Conservation Division of the Museum will have a budget.

Mr Taylor-Nobbs stated that the work should start urgently.

Mr Smallwood asked whether Crewe and Liverpool could liase on this most important relic.

Miss Knowles was unable to give any commitment at this stage, adding that the National Railway Museum are possible partners.

Mr Eddie Bellass suggested industrial sponsorship.

The Chairman expressed his delight at being able to welcome Mr Vernon Smallwood, of the North West Group of OLCO.

Mr Smallwood stated that the North West Group meets regularly and welcomes guests. He went on to hope that we have not lost this most valuable artefact, LION.

Miss Knowles replied that the function is to preserve artefacts for future generations.

Mr Smallwood concluded that we all do what we can.

The Chairman introduced the Accounts and Mr Neish commented that they are clear accounts, events stand on their own and the administration fee is good and low. There is money in the bank for the preservation of LION.

The Chairman asked whether the meeting felt that the funds should be used for LION.

Mr Taylor-Nobbs said yes, we'll find the money.

Adoption of the accounts was proposed by Mr. Mike Parrott, seconded by Mr Neish and passed nem con.

THE 1990 A.G.M.

The Chairman introduced discussion of RESOLUTION NUMBER 1:

> That a new class of membership be created, known as JUNIOR MEMBERSHIP, for persons over the age of 12 and not having attained their 18th birthday with rights similar to Individual Members but not being entitled to vote and paying a reduced subscription.

Mr Taylor-Nobbs talked about the risks to young people. If a kid falls off LION when cleaning, who is responsible?

Mr Bellass said that Family Membership should involve the family.

Mr Smallwood said the point was, under a certain age, you don't let people do it.

Mr Bellass added that if Miss Rowles decides, it's not a problem.

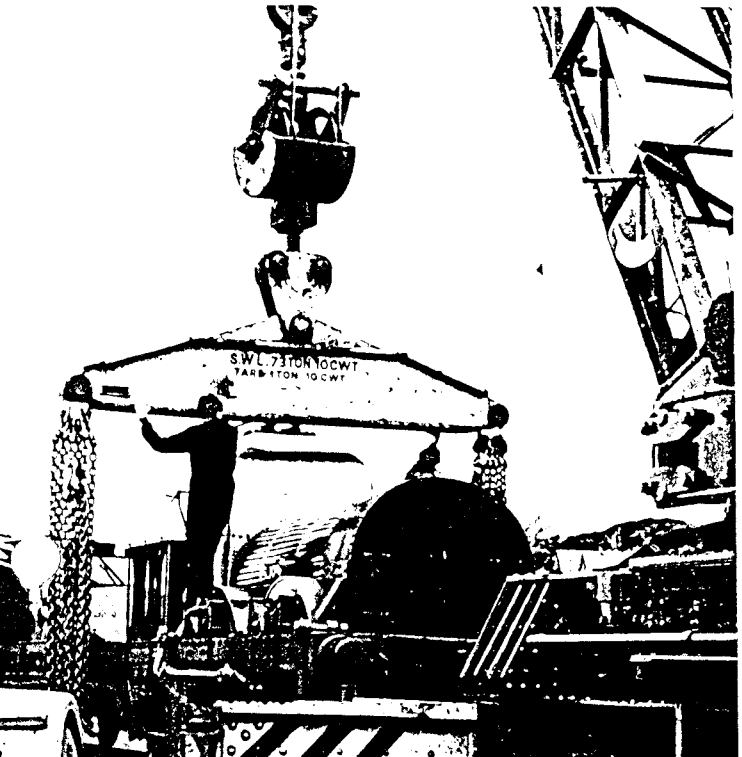
Mr Taylor-Nobbs commented that if we assist with BELLEROPHON, kids do nothing, what's the point?

Mr Len Belk stated that most societies allow juniors.

Mr Eddie Ball explained that the resolution arose from kids asking to join.

Mr Parrott said that under clause 4 of the Constitution, the Executive have the right to refuse a membership application. This is a safety net. Under clause 5, members must obey Executive Officers. The idea of 'constant supervision' of young people is accepted by most railways.

Adoption of the resolution was proposed by Mr Belk and seconded by Mr Smallwood. The resolution was carried on a show of hands with one abstention.



Another view of LION at Dinting, in the course of being moved 'over the fence' by the steam crane (Photo: Eddie Ball).

The Chairman introduced discussion of RESOLUTION NUMBER 2:

> That subscriptions should fall due on the 1st of January each year, for the year 1st January to 31st December and that new members joining before October in any year shall pay the full subscription for the time being in force which shall be valid until the 31st December in the year of entry and that new members joining on or after the 1st October in any year shall pay the full subscription which shall be valid until the 31st December in the year following the year of entry.

Mr Taylor-Nobbs stated that there is no advantage and the resolution should be thrown out.

Mr Neish enquired whether the Treasurer had any preference. It was reported that none had been expressed.

Mr Belk stated that we recruit in the Summer. Surely a half-year subscription would be better?

Adoption of the resolution was proposed by Mr Parrott and seconded by Mr Hawley. The resolution was lost on a show of hands with 1 vote in favour, 10 against the remainder abstaining.

Mr Neish suggested that the matter of a reduced subscription for a part year should be considered in the future.

The Chairman introduced discussion of the proposed RATES OF SUBSCRIPTION:

Individual:	£10
Family:	£15
Institution:	£20
Junior:	£5

Mr Smallwood commented that the proposals were preposterous.

Mr Taylor-Nobbs proposed an amendment that the Individual rate be reduced to £5 and pro-rata with the new Junior category at £2.50. Mr Smallwood seconded.

Mr Neish proposed a second amendment that the rates remain at £6, £8, £12 and a rate of £3 apply to Junior members. Mr Peter Servis seconded.

The Chairman explained that the vote would be taken on the amendments (in reverse order) before the substantive motion. On a show of hands, the second amendment was passed 10 votes in favour with 2 opposed. The Chairman accordingly declared that the first amendment and the original resolution had failed.

In turning to the Election of Officers, the Chairman explained that nobody was time-expired.

A composite nomination of Mr Alan McKirdy as Chairman, Miss Jan Ford as Secretary and Mr Charles Taylor as Treasurer was proposed by Mr Taylor-Nobbs and seconded by Mr Bellass. These candidates were returned unopposed.

A composite nomination to the Executive of Mr Eddie Ball, Mr Barry Smith, Mr Mike Parrott and Mr Peter Servis was similarly proposed and seconded and these candidates were returned unopposed.

Mr Taylor-Nobbs proposed that Mr Vernon Smallwood be elected to the Executive. This motion was seconded by Mr Bellass and declared carried by the Chairman, nem con.

The Chairman then invited Miss Loraine Knowles, Curator - Regional History at National Museums and Galleries on Merseyside, to address the meeting.

Miss Knowles stated that current enquiries for the use of LION were being fielded. The period of change at the Museum was still in force. The Transport Gallery will not move until 1991 at the earliest. The locomotive was required back in Liverpool so that a plan-of-action could be developed with the Head of Conservation. She encouraged activities at the Transport Gallery such as a video or events in the Lecture Theatre. In the interim period, whilst necessary repairs were carried out, she would appreciate such activities. She noted that Mr E F Clark had the old tyres for analysis and asked whether the results were known and what had happened to the tyres.

Mr Taylor-Nobbs offered to lecture and commented that Jan Ford has made some good videos of LION. He stated that midweek dates were acceptable. Miss Knowles said she would discuss the matter with Mr Rees at the Museum. Mr Taylor-Nobbs asked about the display of models.

Miss Knowles commented that showcases were available and asked that thoughts be channeled to her through the committee. She noted that Barry Smith has commented on the work required.

Mr Taylor-Nobbs asked when a conservation officer would be appointed. Miss Knowles believed in a month or two. She went on to say that she understood that the tubes and smokebox were cleaned in the previous August and that it was intended to undertake as much work as Barry Smith had recommended as possible. She noted that the locomotive was now in a much drier atmosphere. Mr Taylor-Nobbs said that, with hindsight, OLCO should have done more. Miss Knowles continued that Museum staff had cleaned the locomtive but more work was needed. She was prepared to arrange passes if applications were co-ordinated through OLCO North West. LIONSHEART could ask for volunteers to contact Mr Smallwood. For Health and Safety reasons, Museum staff would need to be present, so Sunday is not a good day. Evenings would be better, perhaps after closing at 5 p.m. Miss Knowles stated that she would liase with Mr Smallwood.

Mr Smallwood asked about the use of Crewe for restoration. Miss Knowles replied that the Museum would take specialist advice and find a suitable location. The locomotive will have to move for re-tubing. She continued that she would prefer LION back on display in Liverpool, but that would depend.

Miss Knowles explained that the Museum in Liverpool has now been restructured. The National Museum of Science and Antiquity will relocate at the Maritime Museum with Large Objects. The first priority is setting up the Conservation Division in the Great Western Shed, involving the expenditure of £4 million in two phases. Later, £13 million will be spent on a new building on Mann Island. LION would be better displayed to the public outside Liverpool than stored in Liverpool. After two years in the Gallery, perhaps LION could be lent out. The ground floor of the Pilotage might accommodate LION. Miss Knowles offered to take on board any suggestions, adding that, as and when a proposal was received from Crewe, it would be dealt with.

Mr Hawley asked whether the work of retubing LION could be carried out in the Gallery. Miss Knowles confirmed that this was not possible. When the workshop moves to Mann Island, the philosophy is that the conservation work will be on view to the public.

The Chairman recorded the meeting's grateful thanks to Miss Knowles for attending the meeting and for the helpful comments given.

Mr Smallwood asked why should OLCO not become involved with other locomotives, as well?

Mr Taylor-Nobbs agreed, provided the efforts were not dissipated.

Mr Smallwood felt that other locomotives would stimulate young members.

Mr Parrot asked when the next LIONSMEET should be arranged.

Mr Taylor-Nobbs stated a preference for more activities.

Mr Neish suggested that a later date would be better but that industrial archaeological visits, such as to Edge Hill or the Liverpool and Manchester Railway, would be welcome.

THE 1990 A.G.M.

The Chairman then concluded the A.G.M. by thanking everyone attending and announcing that immediately following, Mr Smallwood had offered to show people the Sankey Viaduct and other aspects of the Liverpool and Manchester Railway in the vicinity.

That evening, the OLCO Annual Dinner was held at the Kirkfield Hotel.

On the following day, LIONSMEET took place at Daresbury, within convenient travelling distance of Newton-le-Willows.

A report on LIONSMEET follows on page 8.

VINTAGE CARRIAGES TRUST

With LION currently 'stopped', VCT's star locomotive 'Bellerophon' has attracted the attention of many enthusiasts for older engines.

And 1990 saw 'Bellerophon' put in an appearance at a number of venues. After starting the season on the Worth Valley, she visited Padiham, Swanage, Bluebell and Middleton, before re-appearing at Haworth!

Work continues on preparing 'Sir Berkeley' for service. The Carriage Museum at Ingrow now provides a proper base for coach restoration and is well worth a visit.

Perhaps the most unusual assignment carried out by one of VCT's Metropolitan coaches was the season spent at British Steel, Scunthorpe giving rides around the extensive plant to visitors in their Anniversary Year.

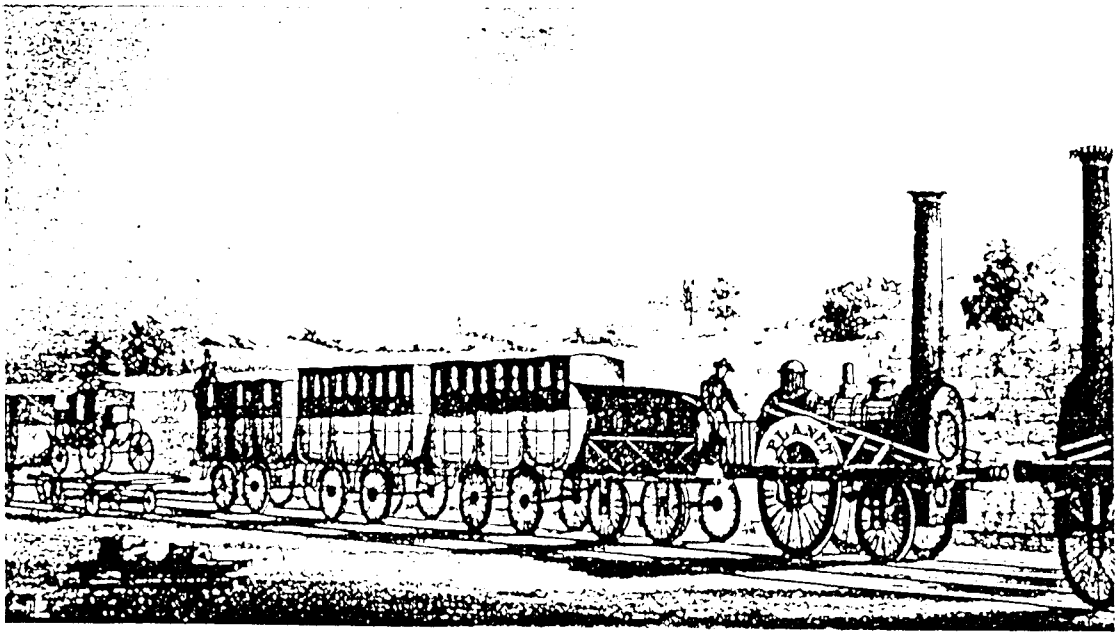


Photo: Science Museum, London

Lithograph by Baird, titled "Travelling on the Liverpool and Manchester Railway", showing 2-2-0 locomotive No. 9, "Planet", with a train of three closed three-compartment carriages

MANCHESTER NEWS

At Manchester Museum of Science and Industry, work on the 'Planet' replica continues apace. Most of the major parts can now be seen in assembly - only the boiler is missing and this is expected shortly. With major sponsorship from British Engine, funding for the project is now complete. Purists will argue for years to come over the various design compromises which have been made to meet modern safety requirements, but 'Planet' will be an interesting addition to the stable of reproductions of early British locomotives. We look forward to seeing the completed replica in steam!

Railway Weekend 1990 had the Coal Tank as the star of the show. This superb locomotive is a credit to the expert restorers from Dinting. The locomotive has now moved to its new home on the Worth Valley Railway, together with 'Bahamas' and many of our friends from Dinting.

The Sunday passemger service at Manchester Museum continues throughout the year, currently operated by Mr. Hugh Wainwright's 1890 Cotterill tram engine. This was brought back from Belgium and restored to working order by Dorothea Restorations. With her vertical boiler and unusual layout, the Cotterill is not universally popular with crews, but she's a locomotive of great character!

LIONSMEET 1990

by Mike Parrott

After the sunshine and high temperatures of the Saturday for the A.G.M., the Sunday morning was cloudy and rather cool. Fortunately the cloud gradually cleared and the sun managed to shine for a while during the afternoon, warming things up a bit.

For the benefit of those who were unable to attend LIONSMEET, I will endeavour to describe the track, which is laid in the grounds of Daresbury Hall.

From the steaming bay area, the line runs downhill on a gentle grade for a short distance before turning left past the clubhouse and entering the woods. A further left hand curve swings the line round onto a long straight run along a narrow line of trees on a level or slightly rising gradient before a sharp right hand followed by equally sharp left hand bends bring the line back parallel to its former course along the trees. At this furthermost point of the line is a small lake, also bordered by trees. Throughout the woods, the ground is fully carpeted by bluebells, which of course at this time of the year are in flower and which the photographers found to be irresistible as either a foreground or background. The line leaves the belt of trees by a sharp right hand bend before swinging left handed back to the steaming bays. Total track length is 1700 feet. The rail is of aluminium, laid to 3.5 in. and 5 in. gauges.

During the morning David Neish and I had our LIONs in steam for general running, and Vernon Smallwood tried his hand at driving my LION for a couple of laps, which feat he performed very well, thoroughly enjoying himself in the process. His ambition now is to drive the full size version!

Whilst David and I and other members present partook of the excellent provisions laid on by our hosts, Jim Mercer steamed his model and had a few laps round the track.

After lunch the competition for the Chairman's Trophy was got under way. Once again David Neish had brough the Guildford M.E.S. Dynamometer Car and our thanks to Guildford for granting us permission to use it. As Jim had his locomotive in steam and on the track, he made the first run. I have tabulated the figures for distance and work done as given by the dynamometer car, together with various other calculated values for all the runs, so I will not repeat them here. On his home track Jim took a moderate load and moderate average speed to produce a figure of 38,350 ft lb, so setting the standard for the rest. This was an improvement of 1,100 ft lb on his run in 1986 which was the occasion of our previous visit to Daresbury. On that occasion he achieved 37,250 ft lb, 4890 ft, 5.557 m.p.h. and 7.6 lb drawbar pull, with a load one child lighter.

Whilst Jim was having his run, David relit the fire on his model and then took his turn in front of the dynamometer. David took a slightly lighter load, giving him less drawbar pull, but a higher speed than Jim. Unfortunately this tactic did not quite pay off, as the final work done figure was slightly less than Jim's 1986 result. However this was a big improvement on David's 1986 figures of 26,830 ft lb, 4550 ft, 5.17 m.p.h. and 5.9 lb drawbar pull, also with a load one child lighter.

I then took my turn in the competition, and in view of the fact that Jim had no problems with the load he took, I decided to take a slightly heavier load, comprising 4 adults and 1 child, 2 adults heavier than my 1986 load. This tactic paid off and the final figure was nearly 50% greater than the previous two competitors, putting me clearlyinto the lead at this time. This was also a vast improvement on my 1986 figures of 28,660 ft lb, 4860 ft, 5.52 m.p.h. and 5.9 lb drawbar pull.

Chairman Alan McKirdy then took the regulator of my LION, but with a lighter load and a lower speed, his result was predictably lower, a disappointing 25,220 ft lb. His relative inexperience in the handling of a miniature LION showed in a low steam pressure and a low water level at the end of the run. You really must get on with your 7.25 in gauge model Alan, and get some practice in. (The half child in Alan's load was my younger son David, aged 2).

The one child who was a constant factor in the load on all the other runs was my elder son Edward, who now took his turn at the regulator of my engine for his maiden run in the competition. Edward is just 5 weeks short of his 8th birthday (or was at the time of the event) and regularly takes a turn at the regulator when we steam LION at Swansea and Rugby. With a light load Edward set of briskly and the work done counter was soon going round at a good rate. I was sitting behind the dynamometer car and could see the readout increasing and was beginning to get a little worried - not at the speed, but that I might lose my position in the lead! However Edward

normally stops to attend to the fire every couple of laps or so at home, and firing on the run proved to be a little too much for him and after 6 minutes 24 seconds the pressure gauge was almost on the zero stop, forcing him to retire. All the same this was a brave attempt by so young a member. By a strange coincidence, this run was just 4 seconds longer than his father's maiden run at Guildford, although on that occasion the cause of retirementwas mechanical failure rather than thermal failure! I am sure that Edward will be practising firing on the run before next year's LIONSMEET so that he can at least complete the run. The final contender for the trophy this year was Richard Spencer, of the Merseyside Live Steamers and Model Engineers. Richard is not an OLCO member but our thanks to him for coming along and introducing us to a LION we had not met before. We hope he will come again. Not having had a run in the morning, Richard was at a slight disadvantage in not being so familiar with the track, although he has run there in the past. Nevertheless he set off at a fair pace, and as his confidence grew his speed increased so that in fact by the end of the run he had in fact completed the greatest distance. With a lighter load than mine (the 2 other children were both quite small) his average drawbar pull was 1 lb less, which just prevented the work done from exceeding that set by myself.Had Richard been more familiar with the track, and set off at the same speed as he finished with, the result could well have turned out differently.

Although not competing for the trophy, Keith Taylor-Nobbs brought his finely-detailed LION along in the afternoon and exhibited it on the steaming bays. Also on display in the steaming bay area was a group of stationary steam engines powered by a vertical boiler, which were kept running all day by one of the Warrington members, and which attracted a lot of interest.

All in all a most enjoyable day was had by those present. Our thanks to Jim Mercer and the Warrington and District MES for being such good hosts for a second time and for providing the all-important refreshments. We would also like to acknowledge our debt to David Neish and the Guildford M.E.S. for once again loaning us the Dynamometer Car.

It is hoped to hold next year's LIONSMEET in the London area to even up the travelling (see Stop Press - Ed.).

Name	Load inc Driver	Distance (ft)	Work Done (ft lb)	Av. Speed (m.p.h.)	Av. D'bar Pull (lb)	Horse-power
J Mercer	3A+ 2C	6210	38,350	7.06	6.176	0.116
D Neish	3A+ 1C	7340	37,150	8.34	5.061	0.113
M Parrott	4A+ 1C	7120	53,190	8.09	7.471	0.161
A McKirdy	3A+ 1.5C	4670	25,220	5.31	5.400	0.076
E Parrott	1A+ 2C	3420	10,870 (6 min 24 sec)	6.07	3.178	0.016
R Spencer	3A+ 3C	7430	47,570	8.44	6.402	0.144

LOCOMOTION - BEAMISH TO NAGOYA

On the next page, Barry Smith continues his description of his trip to Japan with the LOCOMOTION replica.

LOCOMOTION - BEAMISH TO NAGOYA

by Barry Smith

(The first part of this article appeared in the Spring 1990 edition of LIONSHEART).

The training sessions with the Japanese drivers continued into the second week. One proved to be excellent, the other two were not quite up to being left on their own. I won't name anyone to avoid any embarrassment. The day after the official handing-over ceremony of LOCOMOTION, we were visited by the equivalent of the Health and Safety Executive who, after examining LOCOMOTION and the method of operation, announced that hard safety hats and safety belts must be worn by the Japanese crew. This order would not apply to Jim and myself, as it was obvious to them that anyone attempting to drive this strange contraption must be quite mad and must be beyond saving, however, to prevent the Japanese from hurting themselves, they would wear hard hats and safety belts attached to the handrail of LOCOMOTION.

A quick discussion followed. We had no objection to safety headwear but under no circumstances would safety harness be worn by us or the Japanese, for the following reason. If, by some unfortunate chance, someone did fall off the running board, it would be better to fall free and roll away from the loco. If a restraining harness was worn, it would leave the man trapped, running the risk of becoming entangled in the coupling rods and wheels. This seemed to satisfy the safety experts and neither safety headgear nor harness appeared.

We were now nearing the completion of our second week in Japan. At the various press calls, television presentations and official functions, Jim and I did the driving, with the Japanese driving in between. The exhibition was to open to the public on the following Monday, when Mike was due to go home. He had arranged with us to re-enact the opening ceremony of driving out to a now-imaginary ribbon and Mike would then present brass replica LOCOMOTIONs to various Japanese officials. This took some careful stage managing on Mike's part to get the right people on the right place at the right time, but, nevertheless, he achieved this.

Once again, at exactly 10 o'clock, LOCOMOTION steamed out of the shed, with the brass replicas on the running board. Unfortunately, nobody had told the Japanese drivers of our unofficial ceremony and one had decided to recharge the air system from the portable compressor. Neither Jim nor I had bothered to see if the compressor air line was connected, as, normaslly, we don't use the air brake system. Just as LOCOMOTION was drawing to a stop, with a bang, the air line ripped out the connection on the back of the tender, followed by escaping air from the air reservoirs. LOCOMOTION ground to a halt - at least we had proved that the brakes worked!

Only one thing wrong now, the brakes had been locked on by the powerful spring in the cylinder and air is needed to compress this spring and release the brakes. But we didn't have air and were well and truly stuck, unable to move anywhere. We were due to go on television again at 10.30, when the public were admitted for the first time.

During Mike's speech to the Japanese dignitaries, Jim and I were Busily engaged in assesssing the damage to the air system. Luckily, nothing was seriously damaged, but the connection for the air line coupling on the tender back had been parted from the nylon pipe at the union. It would be a simple matter to replace this back on the nylon pipe. 'Oh dear', I exclaimed, 'We've no olives', or words to that effect. These were the spares we had asked Beamish for and had not yet arrived. It was now 10.25. The original olive was carefully opened out using the tang of a file and the connection remade. The anguished looks on the faces of the Japanese were a picture. Mike was saying 'We're going to be late'. I, for my part, told him to stop worrying. 'I've never missed a deadline yet, I don't propose to start now'.

One of the Japanese drivers had started the compressor, the air line was attached and air started to flow into the reservoirs. At 10.29 and 59 secondfs, the system was charged and LOCOMOTION was again ready to roll, precisely on cue, for the press, television and, more importantly, the public. Later, we said our goodbyes to Mike and Peggy. We were now on our own again. I decided that I would not light the fire and raise steam the following day: I had been doing it now for two weeks and I thought it would be time that the Japanese should do it for themselves. I warned them, through the interpreter, that tomorrow I would do nothing and that they must raise steam themselves.

The next day I duly arrived on site and didn't change into overalls. The fire was lit at 8 o'clock by the

Japanese crew but by 9.30 not an ounce was showing on the pressure gauge. It was obvious that LOCOMOTION would not be in steam for 10 o'clock. There was, clearly, more to this firing than just throwing food onto the fire. I looked into the firebox. The fire was simply not large enough. I could tell from the amount of wood left in the tender that it hadn't been used in the correct amount. I took over and proceeded to pile the wood into the box. 'Will LOCOMOTION be in steam for 10 o'clock?' asked the Japanese crew. 'No', I replied. I could tell by the looks on their faces that they were deeply ashamed. The organisers wanted to defer the first demonstration run until 11 o'clock but I would have none of that. 'LOCOMOTION was booked to run at 10.30 and run she will. The Japanese crew would have to learn how to fire the locomotive when we are not there. If I can have the thing in steam, then they must do likewise', I replied, somewhat angrily. 'It's just a question of physical energy and of expounding some sweat'.

10.30 came and, with 15 p.s.i. on the clock, LOCOMOTION hesitantly puffed into life. Honour was satisfied on my part and face was saved by the Japanese.

The next day, I lit and raised steam and more interest was shown by the Japanese in this operation than had hitherto been the case. 'If you've not got a sweat on, you're not doing itb right. You have to constantly keep the fire supplied with fuel, it needs to burn fiercely. Do you understand?', I asked through the interpreter. Three heads nodded in unison. 'You will have to do it tomorrow because Jim and I are going to Tokyo and you will be on your own'.

Later during the day, it was decided to put off our trip to the railway museum at Kyoto for the time being, as it was obvious that the Japanese crew were not ready to be left on their own at this stage.

The next morning when we arrived on site, the times for running LOCOMOTION had been changed from 10.30 to 11.00 a.m. This annoyed me somewhat and I made my feelings known to the exhibition organisers.

I stated that there was no secret or anything magical in being able to be in steam for 10.30. If I could do it, so must the Japanese. Jim backed me up on this point. I returned to the locomtive, the fire was already lit and was burning fierecely. I pointed out that the flames must be long and capable of heating the base of the chimney and that would must constantly be burning: don't wait for it to go red. This meant firing every 4 or 5 minutes. The Japanese crew entered into the spirit of things and, by 9.30, 25 p.s.i. was on the clock. The timing was again altered to 10.30. The Japanese had done it, but they were wringing wet with sweat. I learnt later that they were not used to manually firing a loco. Japanese locos are equipped with mechanical stokers. They had expected LOCOMOTION to be fitted with a mechanical stoker and expressed surprise when told it had none!

We were now entering the third week and the Japanese had more or less mastered the art of firing and driving LOCOMOTION and could be left more or less on their own. It was now time to show them how to do minor repairs and how to insert new plugs into the cast wheels, the wooden ones were shrinking in the heat. This had been anticipated by Mike and so the replacement ones were either nylon or a type of large 'Rawlplug'. The Japanese crew hadn't realised that they would have to do all the repairs when we left for England, but they proved to be quite willing to learn. They were immensely proud to have been picked from the many volunteers off J.R. who had volunteered to drive LOCOMOTION at the Exposition.

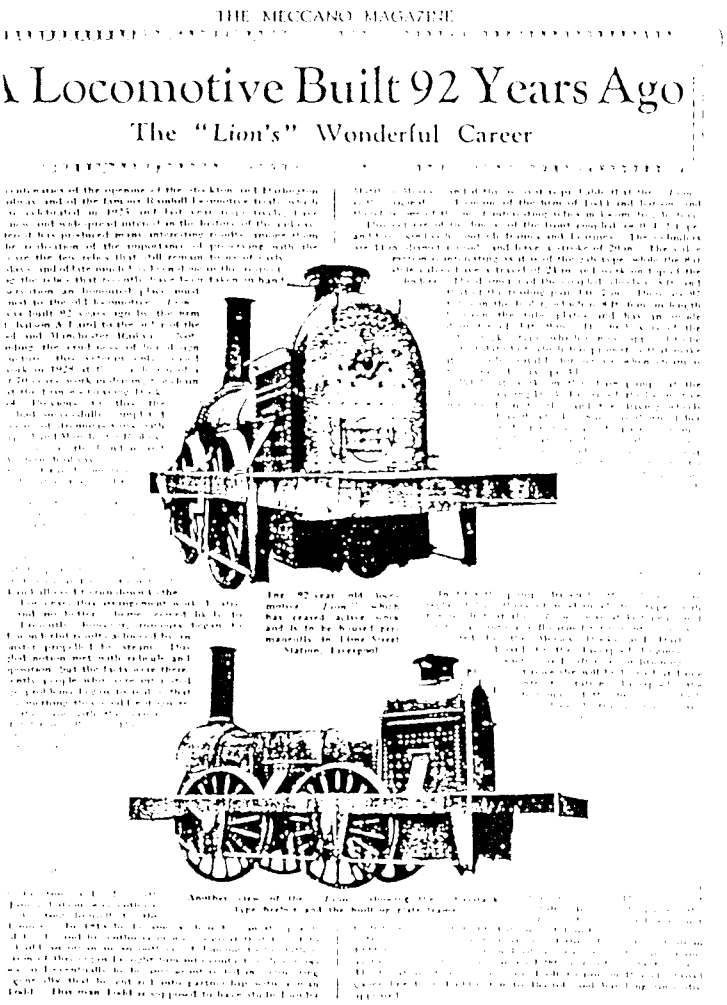
The following Friday, Jim and I were to be guests of honour at a dinner given by the company to whom the drivers were seconded. It was decided, therefore, that as this was the end of our third week and that they were more or less competent, we would present them with certificates suitably inscribed and signed by Jim and myself. Jim would do the artwork and I would present them. We also did two spare copies for ourselves as a memento of our trip to Nagoya. Our interpreter, Kyoko, filled in the names of the drivers in Japanese and obtained frames in which to place the certificates, where they looked quite impressive. As the Japanese are impressed by letters after peoples names, I signed the certificates B. Smith A S L E F !

At the dinner we were presented with traditional Japanese fans signed by the many people connected with the Exposition. I then made a 'Thank you' speech and presented the certificates. This was a complete surprise to the Japanese crew, who were overcome with emotion at receiving them. No honours degree from Oxford had been more gratefully received and they are now in pride of place within their homes.

We were no about to enter our final week in Japan, which was to prove a very hectic one socially, a dinner or function was to be attended every night!

We are sorry to report that Barry has been hospitalised recently for major surgery. He is now back home and we wish him well for a speedy convalescence.

"A LOCOMOTIVE BUILT 92 YEARS AGO"


THE MECCANO MAGAZINE

A Locomotive Built 92 Years Ago

The "Lion's" Wonderful Career

The "Lion's" Wonderful Career

(Adapted from an article which appeared in 'The Meccano Magazine' in 1930)

The Centenaries of the opening of the Stockton and Darlington Railway and of the famous Rainhill locomotive trials, which were celebrated in 1925 and last year respectively, have created new and widespread interest in the history of the railway. This interest has produced many interesting results, among them the realisation of the importance of preserving with the utmost care the few relics that still remain to us of early days, and of late much has been done in this respect. Among the relics that have recently been taken in hand for preservation, an honoured place must be given to the old locomotive "Lion", which was built 92 years ago by the firm of Todd, Kitson and Laird to the order of the Liverpool and Manchester Railway. Notwithstanding the crudeness of her design and structure, this veteran only ceased work in 1928 at the conclusion of a period of 70 years work in driving the chain pump at the Prince's Graving Dock, Liverpool. Previous to this, the locomotive had successfully completed many years of strenuous work with the Liverpool and Manchester Railway and its successor, the London and North Western Railway.

The history of this locomotive is genuinely interesting, and to understand it properly, it is necessary to go back to the days when the locomotive in its crudest form was just beginning to make an appearance.

In those days, the empty trucks at the Middleton coal mine at Leeds were hauled up to pit-head by teams of horses and were then filled by hand and allowed to run down to the bottom.

For years this arrangement worked satisfactorily and no better scheme seemed likely to appear.

Presently, however, rumours began to appear of wonderful results achieved by a monster propelled by steam. This new-fangled notion met with risdicule and opposition, but the facts were there, and presently people who were interested in haulage problems began to realise that here was something they could not ignore. This was the case with the owners of the Middleton colliery. They investigated the matter thoroughly and when they had satisfied themselves with the qualities of the steam locomotive, they introduced it as a substitute for horse power. This change was put in place in 1812 and the locomotive used was built by Matthew Murray, who became interested in his work through a man named Blenkinsop. Murray's designs were successful and he may be regarded as the man who built the first commercially-successful locomotive.

Around this time a Leeds youth named James Kitson was enthusiastically devoting himself to the study of music. In 1815 he became a choirboy and his enthusiasm was so great that he set to work to build an organ in an outhouse belonging to his father. The construction of this organ brought him into contact with various mechanics, and eventually he became so interested in engineering generally that he entered into partnership with a man named Todd. This man Todd is supposed to have studied under Matthew Murray, and if this is so it is probable that the "Lion" is the original No. 1 engine of the firm of Todd and Kitson, and therefore one of the most interesting relics in locomotive history.

This veteran of the line is of the front coupled or 0-4-2 type and has "sandwich" outside frames and bearings. The cylinders are 11 in. diameter inside and have a stroke of 20 in. The valve motion is interesting as it is of

the gab type, while the flat slide valves have a travel of 2.5 in. and work on top of the cylinders. The diameter of the coupled wheels is 5 ft. and that of the trailing pair 3 ft. 7 in. There are 97 tubes in the boiler, which is 8 ft. 6 in. in length between the tube plates and has an inside diameter of 3 ft. 9 in. The firebox is of the "haystack" type, which is now supposed to be out of date but which has properties that make it specially suitable for service when steam is to be raised very quickly.

While at work on the chain pumps at the Prince's Graving Dock, Liverpool, the locomotive was fixed on trestles and the driving wheels were used as flywheels. She was shorn of her coupling rods for reasons of space economy and the trailing axle and wheels also were removed. These are still in existence but unfortunately the tender has vanished and no trace of it can be found. The original boiler, together with the haystack firebox, were in operation to the last, and it speaks well for the care and skill of the builders of the locomotive that the original Trevithick pattern regulator and gab reversing gear were still efficient after 90 years of service.

In 1929 the pumps driven by the "Lion" were replaced by others of modern electric type, with the result that the "Lion" was at last pensioned off to pass into a well-earned retirement. She was presented by the Mersey Docks and Harbour Board to the Liverpool Engineering Society, and after reconditioning at Crewe she will be housed at Lime Street Station, Liverpool, the terminus of the line over which she hauled trains during the first 20 years of her existence.

When in use on the old Liverpool and Manchester line, the "Lion" carried the running number 57. The amalgamation of 1846, which resulted in the formation of the London and North Western Railway, gave rise to a change in number and the "Lion" became No. 116 of the Northern Division of the railway. This alteration has caused some confusion, for two locomotives of the Southern Division also had this number. These were of totally different design to the "Lion" however, and were not built by the firm of Todd, Kitson and Laird.

It is interesting to note that one of the three locomotives built in 1838 for the Great Western Railway was given the same name as this veteran that has survived 90 years of constant service. The Great Western "Lion" was built to run on Brunel's broad gauge line from Paddington to Bristol, and has long since disappeared.

(Any comments from members on the opinions expressed in this article would be welcome)

EARLY DAYS

by Len Belk

It all started in 1917. Half a mile of high embankment between Wavertree and Sefton Park stations on the Liverpool to Crewe line afforded a good view of the wartime succession of trains - from my pram! Mum said they were a good soporific in my case. I don't know whether any particular train signified feeding time then, but it did come later.

A PROPER railway, of course, being the North Western. Seemed as regular as the sun and moon, despite the war. The sight and sound of magnificent black engines all day long became an important feature of home life and, all through long years of wandering, that warm feeling remains when on or near a railway.

However, my faith must have wavered because the first desire I can recall was for a "big RED engine", duly satisfied in wooden form. But, after four years existence, my more loyal and technically growing wishes had Christmas results - a delightful North Western of my own, all in table-top size, and which was to be added to for several years. Perhaps the kindly relatives who supplied the red engine were of Midland inclinations and wanted to know what a REAL railway consisted of, as their monopoly of my line during the usual Boxing Day family party caused a forerunner of the tears Crewe was to shed later!

Eventually I graduated to Hornby - first wanting a BLACK tank engine - and thence to finer scale and electrification. Meanwhile, my interest broadened and anything to do with any railway was noted or avidly read. The advent of the L.M.S. and the pleasing sight of 'Crabs' and Midland Compounds did not lessen adherence to my first love. But this, and trips "over the water" to the Wirral peninsula with delight in seeing G.W.R. pannier tanks etc., did highlight the vast scope of railway attractions, as did occasional trips on the 'Lanky-Yorky' and the C.L.C., all adding appreciation of my home area's variety.

Some of the things seen in those first 16 years were not exactly in accordance with records. Long after the sole surviving Webb 4-cylinder compound 4-4-0 was reported as "scrapped", I saw it one afternoon quietly passing through Sefton Park, light engine, the footplate loaded to capacity with bowler-hatted gentlemen! That was in 1932. Had Crewe men postponed for months the actual cutting-up (perhaps hoping for some unofficial preservation

off their own bat) and were later caught out by Derby headquarters? Was this a last fling in respectful memory of Webb?

The last 'Renown', L.M.S. 5110 'Iron Duke', was another surviving long after official withdrawal. She (or he) lay quiet in a corner of Speke Junction shed until midsummer 1932 at least. In the following years I learnt of many things which varied from journalistic accounts - first hand - but at that time I was merely an onlooker, an early 'spotter', with laboriously hand-written lists. No Ian Allan then!

An earlier memory often refreshed in recent cycle jaunts was Mold, North Wales. Still in a L.N.W. area, where family holidays were spent in my second and third years. I remeber very clearly that whilst the family rested on a small green, the youngest member hung for hours over a low wall watching shining black engines busily occupied. Now I often wonder did I ever see the last of the 'Bill Baileys'? Nicknamed after a popular song ("Won't you come home, Bill Bailey?"), they were the last, and worst, of Webb's compounds. Until 1920, the last of the class was in that area.

My introduction to number spotting was through a school pal, about 1927, when a few lads were fortunate enough to have engine name and number lists culled from the 'L.M.S. Magazine'. By then, the whole day was timed by the passing of trains; when to get up, to finish breakfast, to leave for school, etc. More than once, the 8.06 a.m. from Sefton Park to Lime Street, Liverpool consisted of a Webb 0-6-2 'Coal tank' heading what seemed a huge train in comparison, being a set of coaches with large 'Newcastle' destination boards. I've never checked why. I am content to remember that glorious sight of a tiny 'Coalie' coping with a terrific load!

The 8.50 was always watched before entering school, as this usually had a shining 'Claughton' heading a stopping train. If it was late ... black marks at school! At noon, we dashed out to see the '12 o'clock Milk', as this, too, had a Claughton. From four to five o'clock, we watched a succession of regular engines on various trains, and the early evening had similar constancy - always 'Lady Godiva' on the Chester and 'Cauliflower' 8497 toiling up the 1 in 113 bank from a stop at Mossley Hill, the sharp, distinctive Joy valve-geared beat so typically North Western and a sound I'll remember forever. But the highlight of those evenings at the footbridge (still there) was the train from London around 8 p.m. which - if no passenger required to alight at Mossley Hill - would hurtle under the road bridge to charge the bank flat out. By then, the 'Royal Scots' had appeared, and with their original springing developed frightening antics at speed. So we hoped for a non-stop, took up position on the footbridgeto view head-on the wild rolling, vividly emphasised at the point of emergence from the road bridge, which we swore was scraped at times!

Another newcomer was the 'Class 4' 0-6-0 of Derby origin, racing down the bank on a fast freight with the exhaust sounding decidedly TWO beat. One of our number was quite sure that they were a ONE-cylinder engine, having seen only one 'knob' on the front! This referred to the valve-rod tail covers, one of which must have been missing from some of the regular engines.

Sounds were a constant background to home life, and I cannot remember any family complaints about them, unlike removal in 1934 to a first-floor flat on a fairly busy road. Not far from Edge Hill Gravitation Yards, on a rainy night, in particular, one could lie in bed hearing the distant roar of a 'G2' or 0-8-4T perhaps, loudly voicing scorn for gravity at the head of a prodigious load, a staccato 'ONE - TWO - three - four' beat, occasionally breaking into a slip, soon picked up again. Of all the sounds in life which have given me pleasure, not even beloved music has marked my memory so clearly and distinctly. No 'L.P.' at any price could better that thrilling inspiration to boyhood imagination!

Although the yards were not in sight, there was visible evidence too. Sneaking quietly out of bed, I'd enjoy the back window view over the roof tops of the flickering, yellow fire-hole glare on low clouds, lifting at every exhaust beat, with shadowy traces of the fireman feeding a white, dancing fire. 'Son et Lumiere'? I had my own show some 50 years ago!

A curious contrast was noted in the 1950's, when living in the High Peak area, near the Midland line to Manchester. Whereas the Crewe-built 0-8-0s loudly told us they'd at least 60 on when climbing to Wavertree, past my Liverpool home, of all the freighters climbing to Chinley - Garratts, Stanier 2-8-0s, Class 4s, etc. - the quietest of all were the L.N.W. engines which quite often worked through. Apparently, they regarded the 40 or so wagons usual on that line as a rest from more worthy tasks. They almost SNEAKED past!

Having acquired enough knowledge of the various loco types, and with a dozen years of life constantly within earshot of the daily traffic, I became fairly proficient at identifying any heard passing, during meals, perhaps. A few years ago, a friend told me of a well-known public figure whose avid devotion to a very large model railway would cause him to dash away from important guests at his lunch table saying "My God! I've got to run the 1.30!" Oh dear! Was I as bad? Reproof certainly came for a habit of dashing to door or window to check whether I'd heard correctly. Some types - especially the 'Coalie' 0-6-2Ts emitting a warbling shriek when the driver shut off for Wavertree - had quite individual sounds, but, until aware that the 'Precursors' rebuilt with superheaters and piston-valves were exactly like the 'George The Fifths', THEY fogged me.

Living by a railway was so different from life pestered by the roars and penetrating rasps of road traffic. Even fast trains came and went gradually, with rather a cheerful sound, never enough to lull conversation. Smoke and smells? Very, very rare in those days.

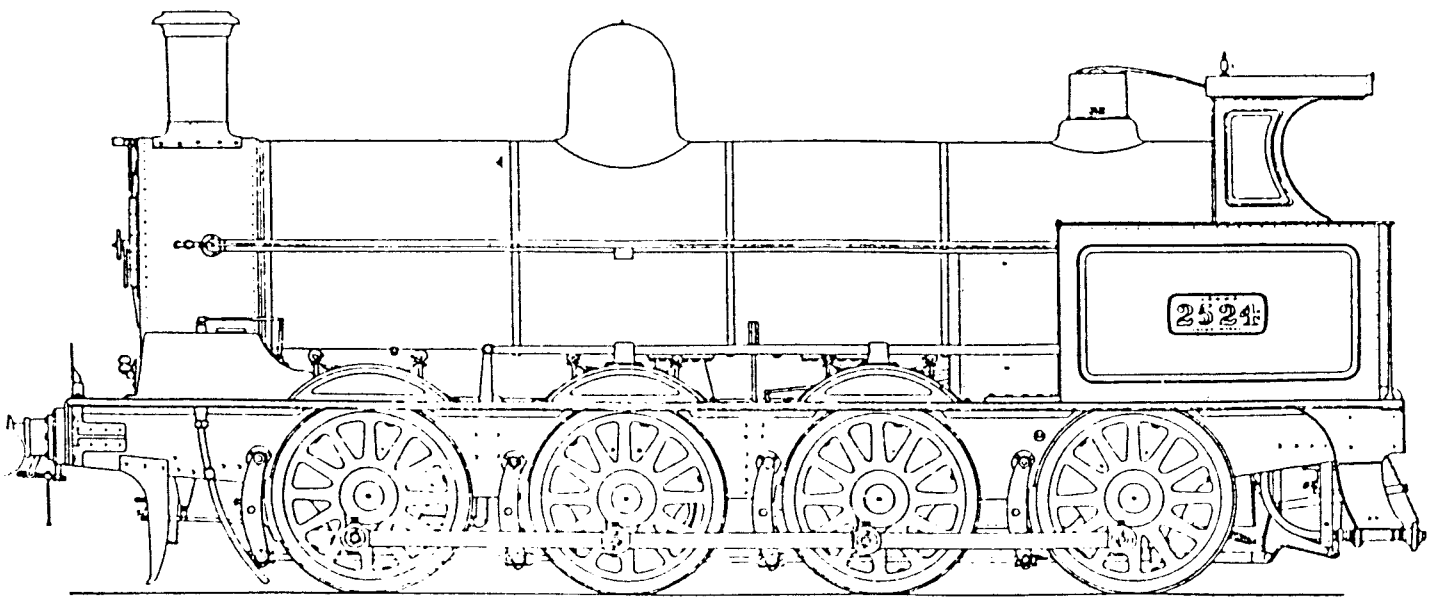
The daily procession included every L.N.W. passenger engine type from 'Jumbos' (rare by then) to 'Claughtons' and many 'Renowns' of majestic name. Goods trains were usually very long - 84 wagons counted one day - and sometimes headed by the last Webb Compound or R.O.D. 2-8-0s, rarely 17-inch Coal 0-6-0s or 'Cailiflowers'. A daily C.L.C. goods had a Great Central 0-6-0. The L.M.S. 'Standards' became more numerous, as did named express trains, to our delight. 'The Merseyside Express', 16 on in summer and 13 in winter, was the star. There was also 'Manxman', 'Sunny South Express' and, on Friday and Saturday, several Boat Trains with Cunard, White Star or Canadian Pacific headboards prominent.

Although I was not often a passenger on any long trips until later years, I do recall one to Penrith in 1928, seeing L & Y 4-6-0s among more familiar types and getting a very wet face from the fireman's well-aimed pet-pipe! This lack was more than made up for by Saturday afternoon local jaunts, visits to Edge Hill sheds in the care of driver or loco fitter friends of my father (City Councillor for the ward) plus hours spent at some grand vantage points - ultimately no less than nine in number - plus four L.N.W. stations. Sefton Park and Mossley Hill always had good fires in the waiting rooms, where we spent many an afternoon roasting chestnuts between trains. An illicit occupation, but we did behave ourselves and the station staffs turned a kindly blind eye to our presence.

No more than reasonable conduct did reap its rewards, but there were occasional lapses, although not amongst our group, I'm glad to say. Two are worth recording (I can vouch for truth and could name names, but don't want to be called as witness in court cases delayed 50 years!).

The down 'Merseyside' nearly always stopped at Mossley Hill after a fast, non-stop run from Euston and, in summer, had to start at least 16 well-loaded coaches and 12-wheel diner up

The unmistakable lines of the L. & N. W. 8-coupled freight locomotive. These appeared in various guises, compound, simple and, finally and in their most long-lived form, superheated. Only one of this large group survived into preservation - 9395 in the National Collection. Formerley at Birmingham, she is now at Butterley, but has been cosmetically restored only.



the 1 in 113 bank, with the train on a curve. The Scot's chimney was almost under Rose Lane bridge and the Booking Office! One evening, a mischievous lad appropriated some lamp oil from the Porters' Room and quietly oiled the track under and through the bridge. I did not see this, but believe the result was quite beyond description ..!

The other occasion concerns the quiet Sunday afternoons at Speke Junction Shed, mainly for freight and, until later at night, devoid of staff but for one watchman, often an elderly driver. We often called there and easily got permission to look round on one Sunday, in return for a photo to be taken of the watchman, a most likeable driver near retirement (I'd just been given a cigarette-coupon box camera). These visits ceased after some lads tried their hand at rotating the hand turn-table. Now, this was always left set for the first engine off shed early Monday, which duly backed onto the table, in pitch darkness. Fortunately, the driver was keen-eyed and just managed to stop, with one pair of tender wheels over the pit!

The 'bush telegraph' soon got the message over and we lost two good vantage points. These events were thoughtless mischief, without the malice apparent in the destructive vandalism of today, although none of us would claim to be perfect angels!

I mentioned nine 'observation posts'. Once, there was a tenth, when the down 'Merseyside' had come into the young spotters' ken and was then after official bedtime. It could be heard leaving Mossley Hill, so, on summer evenings when my parents were out (probably on civic affairs), my older brother and sister likewise out (probably on amorous affairs!) and I was supposed to be safely embedded in a small front room with no bay window, a small pyjama'd figure could be seen sitting on a ledge OUTSIDE the open window, bare feet dangling over a glass-roofed verandah!

Despite the kindly concern and urgings from occasional passers-by, from this unique position I saw the regular 'Scot' replaced one night by two 'Precursors' (shades of the North Western's finest years!) and, on another occasion, heralding its passing with an irregular 4-beat exhaust, probably due to a broken valve-spindle, the driver gamely getting the train home in true Edge Hill, North Western fashion!

LION - STILL AN ENIGMA

During the recent past few years operation of the ex-L & M Railway locomotive 'Lion', many questions have been put to the author of this article concerning her history.

Whilst many of the questions posed are covered in her official biography by Adrian Jarvis and Len Morris, many cannot yet still be satisfactorily answered. In fact, having read and re-read the book only makes one aware of how little is actually known about 'Lion'.

What this article sets out to do is to try and add a little meat to the skeleton, but by and large is only my personal theory and I emphasise the word 'theory'. It does not profess to be an accurate statement of fact but merely seeks to give a plausible account of what might have happened, based on known facts and dates that I have encountered researching material for other articles. The reader, having read it, can make up his own mind or, hopefully, be encouraged to carry out his own further research to enable him to either prove, or otherwise disprove, this article. I wish him well.

It has been suggested that the valve motion is original but in this I would disagree. The motion now fitted to 'Lion' is of a type attributable to William Barber Buddicom and first used by him on a locomotive of the Paris and Rouen Railway in 1841, after his departure from the works of the Grand Junction Railway at Edge Hill. During his employment there, he was on good relations with John Gray and William Melling at the Liverpool and Manchester works 'across the road'.

It is therefore not beyond the bounds of possibility that he schemedd out this design before leaving for France, showing it to either Gray or Melling. Later L & M lcomotives were also fitted with this type of valve motion; the 'Bird' class. It is known that 'Lion' had the first of many rebuilds in 1841; it is, therefore, probable that the motion work dates from this time. Had it been original, then, undoubtedly, it would have been of the earlier form of Stephenson gab motion, whereby all four eccentric rods were placed beneath the valve spindles and are lifted into place by a complicated system of levers and links. Buddicom's improvements were to simplify this linkage and to introduce the forked ends to the gabs, making for easier engagement with the valve spindles. In doing so, he placed two eccentric rods above and two rods below the spindles, making a neater arrangement than had hitherto been the case. It was then only a matter of time before someone would see the feasibility of attaching a link between the opposing eccentric rods to enable the expansive working of the valve to be accomplished (Williams and Howe) Stephenson valve motion 1842.

With the general introduction of this type of valve gear (Stephenson link), in order to avoid paying royalties to R. Stephenson and Co., other designers sought out ways to avoid the patent and designed their own valve motion. The most well-known at that time and for many later years was the Gooch and, to a lesser extent, the Allan straight link.

The Gooch motion was initially fitted to a locomotive of the London and South Western Railway by John Gooch, but was made famous by its adoption by his brother, Daniel, on the Great Western (1843), where it was to remain the standard for many years.

Later, the London and North Western railway was taken to court (1851) for the infringement of Stephenson patents by fitting Stephenson valve motion to its locomotives and not paying royalties. This led to the development of the Allan straight link type of motion.

It has been suggested that, because the type of valve motion as now fitted to LION is of a type used by Kitsons for their later locomotives, then this must be original, but it cannot be - it was not designed then (1838) - its first recorded use being a dated drawing by Buddicom of the 17th September 1841, for use on the previously-mentioned French locomotives.

Kitsons may well have used this type of motion on other, later locomotives, as did Sharp Brothers of Manchester, the reason being that if they wanted to fit the superior Stephenson motion, they would have had to pay royalties. As the Buddicom was better than the old, complicated Stephenson gab type, they adopted this. Later, Sharp Roberts became a devotee of the Gooch type. If the locomotive builders of Leeds wished to fit expansive valve gear, they would have to pay Stephensons their dues of fit Gooch type, for which no patents were sought.

It is possible that the driving wheels and crank axles also date from this first rebuilding and, possibly, the boiler, although not necessarily the boiler now carried by LION. The edge hill works of the Liverpool and Manchester under Melling were by this

time (1841) a modern workshop comprising everything needed to maintain and, in fact, build locomotives, including the construction of boilers. Gray and Peter John Dewrance were responsible for a large amount of standardisation of boilers, wheels etc long before this came to be known as a hallmark of Crewe.

After the purchase of No. 69 'Goliath', an 0-4-2 in 1839 from Benjamin Hick of Bolton, no further locomotives were ordered by the Liverpool and Manchester from outside sources. From its next locomotive, No. 70 'Swallow', a 2-2-2 built at Edge Hill in September 1841, all the remaining 27 locomotives were built at Edge Hill to a standard design, differentiating only in wheel arrangement, being either 2-4-0s or 2-2-2s. A further ten of this 'Bird' class were built by the Grand Junction Railway at its works at Edge Hill after the amalgamation into the L.N.W.R. in 1846.

Turning now to this class of locomotives, the 'Birds', whose design is attributable to John Dewrance. If one removes the brass cladding over the firebox on LION (Crewe 1929), the boiler bears an amazing resemblance to that which is fitted to the 'Bird' class. The rounded firebox crown and large steam dome are identical in outline to contemporary drawings of the 'Bird' boiler. Could lion's boiler, fitted at the time of her rebuilding, been the precursor of a new standard range of boilers as fitted to the later standard locomotives of the Liverpool and Manchester?

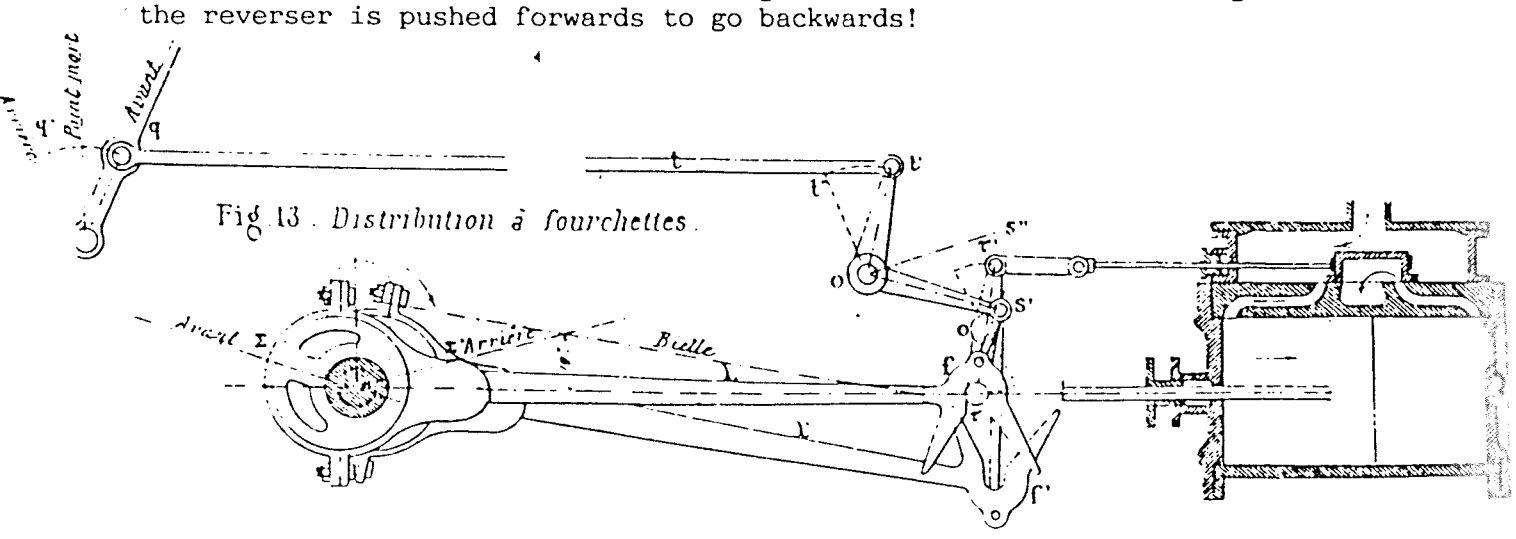
With the introduction of this new range of standard locomotives, the entire fleet of early, privately-built locomotives, with the exception of LION and her sister locomotive 'Buffalo', were all scrapped by the year 1850.

Why then keep two other non-standard locomotives from this earlier era, unless, of course, their boilers were interchangeable with the 'Bird' boilers. History tells us that LION wa used as a ballast engine, but not where. Again, conjecture has to be resorted to based on what is known happened to 'Buffalo' and another ex-L & M locomotive, No. 149 'Peterel' of the 'Bird' class. Those who know LION will instantly recognise the significance of this locomotive number 149.

The year 1850 saw the opening throughout of the Chester and Holyhead Railway, associated with the improvements carried out at Holyhead Harbour. I therefore suggest that it was here, at Holyhead, that LION and 'Buffalo' were employed, both in construction work on the breakwater and for banking trains out of the station up the steep, rising gradient. In 185[illegible] 'Buffalo' was converted to a tan. engine especially for this duty, remaining in daily use until 1862 when she herself was sold out of service.

The date of LION's withdrawal from revenue service and entering the service of the Engineer's Department as a ballast engine, in 1857, is significant, as this could be the last time that she had a overhaul, before sale in 1859 to the Mersey Docks and Harbour Board, as stated in her official biography. It would be surprising if the M.D. & H.B. bought a locomotive that was not serviceable. Therefore, before entering the Engineer's Department she would, in all probability, have been given a limited overhaul and probably a reconditioned boiler. My guess is that this is the boiler she now carries, but from wher did this boiler come?

This diagram of a Gab motion is taken from Charles Goschler's book published in Belgium in 1881. It shows how lifting and lowering the gabs causes the motion of the slide valve to be derived from either the forward or reverse eccentric. LION's motion features a similar arrangement, with an altered linkage. On LION, the reverser is pushed forwards to go backwards!



From the ex-L & M loco 'Peterel' No. 149, scrapped by the L. & N. W. in 1856, as had all the 'Bird' class been by this date, after the introduction of the more powerful 'Crewe' type.

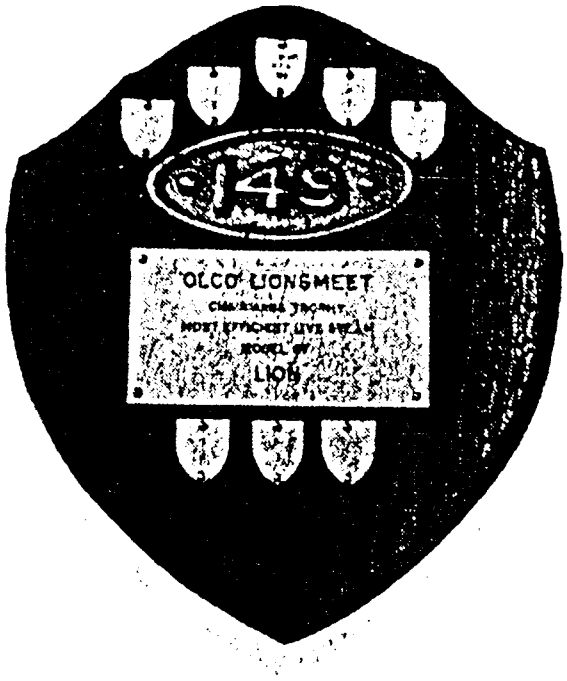
What could be more natural than the L. & N. W., having decided to keep LION in service as a ballast locomotive, but being in need of boiler work, than for them to fit the boiler from 'Peterel', withdrawn in 1856, giving them enough time to carry out repairs to LION before re-entering service in 1857, both boilers being practically identical. Could this be the reason for the brass plate bearing the number '149' on the boiler back plate?

Probably a couple of 'Bird' class boilers were kept as spares, having decided to keep LION and 'Buffalo' at Holyhead. Non-standard, lightweight locomotives have always been employed on the breakwater there and I suggest it was from here that LION was purchased by the M.D. & H.B., for similar duties at Liverpool, working on the dock and harbour extensions, before her enforced encarceration within the pump house at the Princes Graving Dock in 1871.

The majority of this article is, I reiterate, only my own personal view, based on known dates and facts. However, these dates give credence to a plausible explanation of LION's unexplained years of operation. I offer this article in the hope that others will be encouraged to either prove, or disprove, my theory and that they will obtain as much satisfaction as I have done researching this material.

Sources:

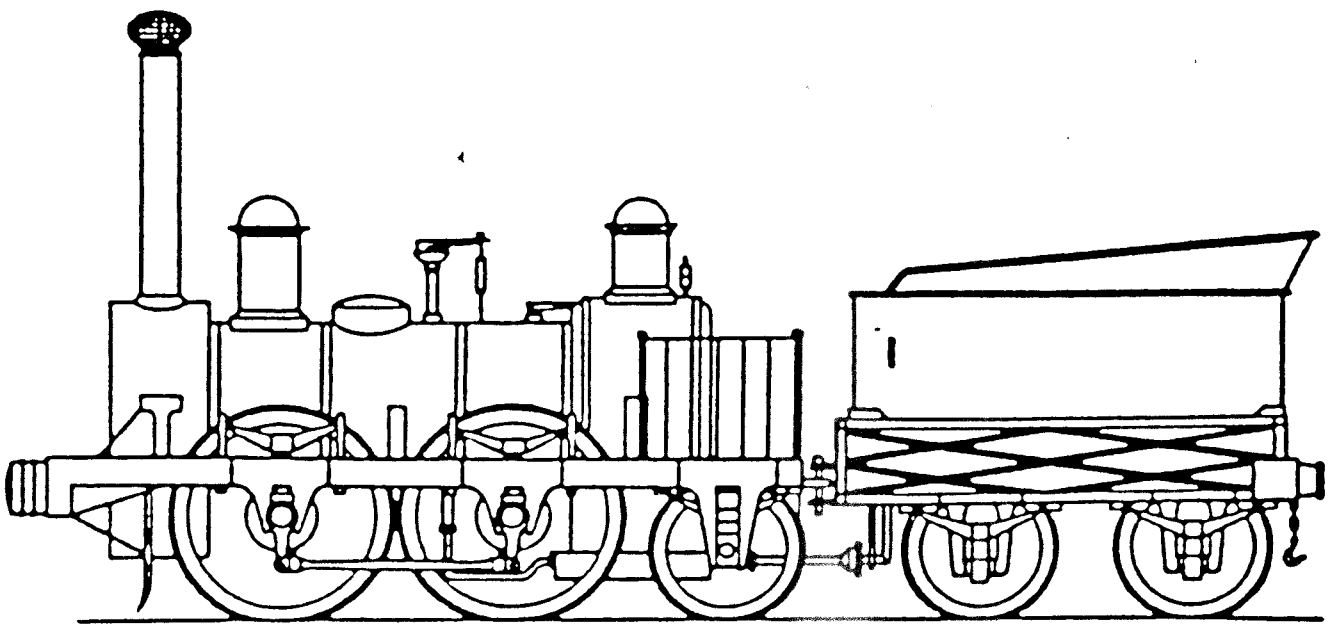
Various issues of 'The Engineer'.
Science Museum Library.
'A Century of Locomotive Building'
J'G H Warren, 1923.
'The Liverpool & Manchester Railway'
R H G Thomas, 1980.
'Catalogue of British Locomotives'
Moorland Publishing.
plus various railway periodicals



THE CHAIRMAN'S TROPHY

This is the shield competed for at the annual LIONSMEET. It has been won by Mike Parrot for the last two years! The trophy incorporates a replica of the number plate '149' mentioned by Barry Smith in the previous article.

The design of Belgian Railways No. 2 'Elephant' shows remarkable similarities with LION. In fact, the order was placed on Stephenson in 1835 with construction actually carried out by Tayleur.



STOP PRESS - LIONSMEET 1991

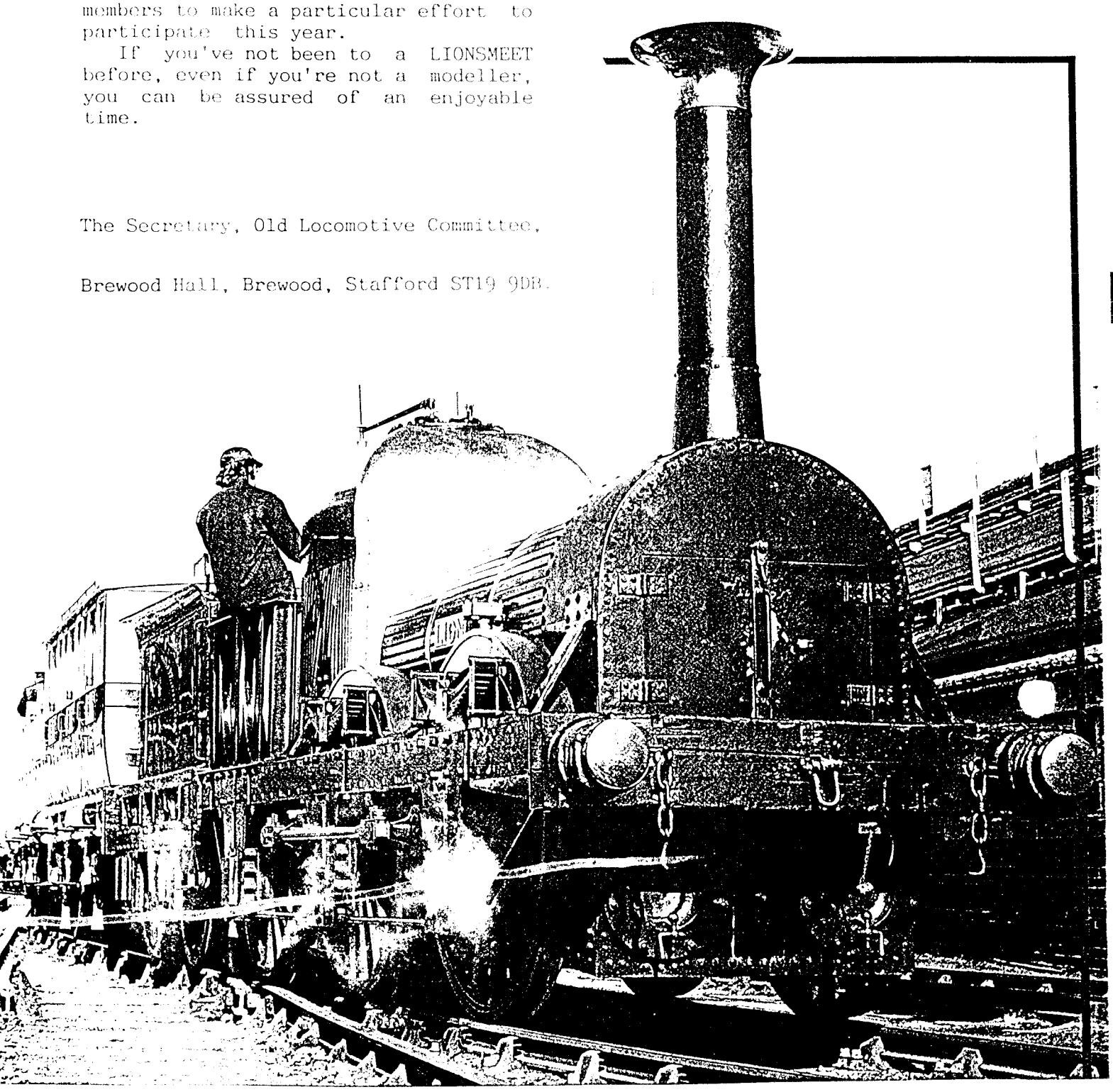
The next LIONSMEET will be held on Sunday, 25th August 1991, the Bank Holiday Sunday.

The venue is Welling and District M.E.S. at their Falconwood track. A location in Kent has deliberately been chosen to make life easier for our members in the southern half of the country. As available, further details will be passed on, but we would ask members to make a particular effort to participate this year.

If you've not been to a LIONSMEET before, even if you're not a modeller, you can be assured of an enjoyable time.

The Secretary, Old Locomotive Committee,

Brewood Hall, Brewood, Stafford ST19 9DB.



This photograph by Ivan Belcher appeared in the 'Model Engineer' in 1985. It shows LION hauling the National Railway Museum's reproduction 1st class and 3rd class coaches at Didcot.