

LIONSHEART

Number 33

APRIL 1994

LION'S RESTORATION CANCELLED

In a move which will cause widespread consternation, the owner's of LION, National Museums and Galleries on Merseyside, have cancelled plans to restore LION to steamable condition. The Museum's Board of Trustees have decided that LION should be conserved for display purposes only.

Interested parties have received the following letter from Jim France, Keeper of Conservation at the Museum:-

"I am writing to inform you that at its meeting on 22 February, the Board of Trustees considered a report on the conservation options for the locomotive Lion. After much discussion the Board decided that Lion should be conserved for display purposes only. The reasons for this decision are:

- * Lion is one of the world's earliest surviving railway locomotives and is therefore of international importance.
- * To continue to modify the structure of Lion for steaming purposes will further degrade the remaining original features of the locomotive.
- * The Museum and Galleries Commission's standards for the Care of Larger and Working Objects in Industrial and Social History Collections recommend that in the case of objects which are internationally important or nationally very rare there should be minimum of intervention, the highest standard of conservation and craft-engineering care and discontinuation of tradition use.

In making this decision, the board had had regard to the long-term interest of the locomotive and its preservation for the enjoyment and appreciation of future generations.

The Board has asked me to express its appreciation of the great support and interest which you have demonstrated in Lion over the years. I am sure your interest will continue and I should be very happy to discuss the matter further with you either over the telephone or in person at any time."

The Executive Committee of OLCO has met to consider this letter and the Chairman, David Neish, is replying to the Museum. You can be certain that other interested parties will be in communication with the Museum, following this reversal of the decision which we published in the April 1992 LIONSHEART, when the Museum had stated that they considered limited steaming to be ethical.

This news places OLCO at the crossroads and makes the forthcoming A.G.M. in Manchester the most crucial in our history. We hope that members will make a special effort to be at this A.G.M. to enable a full debate of the various views.

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MANCHESTER



As announced in the LIONSHEART No. 32, the Annual General Meeting will be held in Manchester on Saturday, 14th May 1994, starting at 4.00 p.m.

The starting time of the A.G.M. will allow members to spend most of the day at the Museum of Science and Industry in Manchester, which is situated in Liverpool Road, Castlefield, just off Deansgate and within walking distance of British Rail Deansgate Station and Metro-Link G-MEX Station.

The 'Planet' reproduction should be in service on the Museum's demonstration line and OLCO members will be allowed to make a close study of 'Planet' before she goes into service around noon. If there's sufficient interest, there may be an 'OLCO Members Special'.

Normal admission to the Museum is £3.50 (£1.50 children and concessions) but if you pay the the OLCO Treasurer in advance, the admission will be £2.50 (£1.20 concessions).

The venue for the A.G.M. will be a traditional public house in Liverpool Road, about 150 yards from the Museum, adjacent to the Roman Fort and called, appropriately enough, the 'White Lion'.

Remember, to have a vote at the A.G.M., you must be a paid-up member (although we welcome non-members as observers).

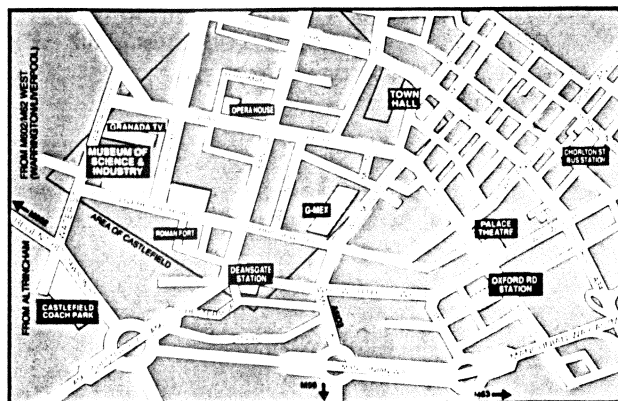
The A.G.M. will be followed by the Annual Dinner, starting at 7.00 p.m., also at the 'White Lion'. As usual, we have kept the price modest - for only £5 per head you will have a choice on the day from two starters, two main courses and two desserts, finished off with coffee. But there is limited space available, so you must book both for the A.G.M. and the Dinner in advance.

To book Museum admission, renew membership or book dinner, please fill in the form you should find with this copy of LIONSHEART. Bearing in mind our front page news, we urge all members to make an effort to be at this A.G.M. Please don't delay, but fill in the form and pop it in the post to the Treasurer with your remittance.

If you come by car, there is car parking at the Museum (£1.50) but this closes at 5.00 p.m. The 'White Lion' doesn't have its own car park, but street parking is permitted and there is a public car park behind the 'White Lion'.

(concluded on page 5)

Our photograph shows a Metro-Link super-tram outside G-MEX, formerly Central Station on the C.L.C.

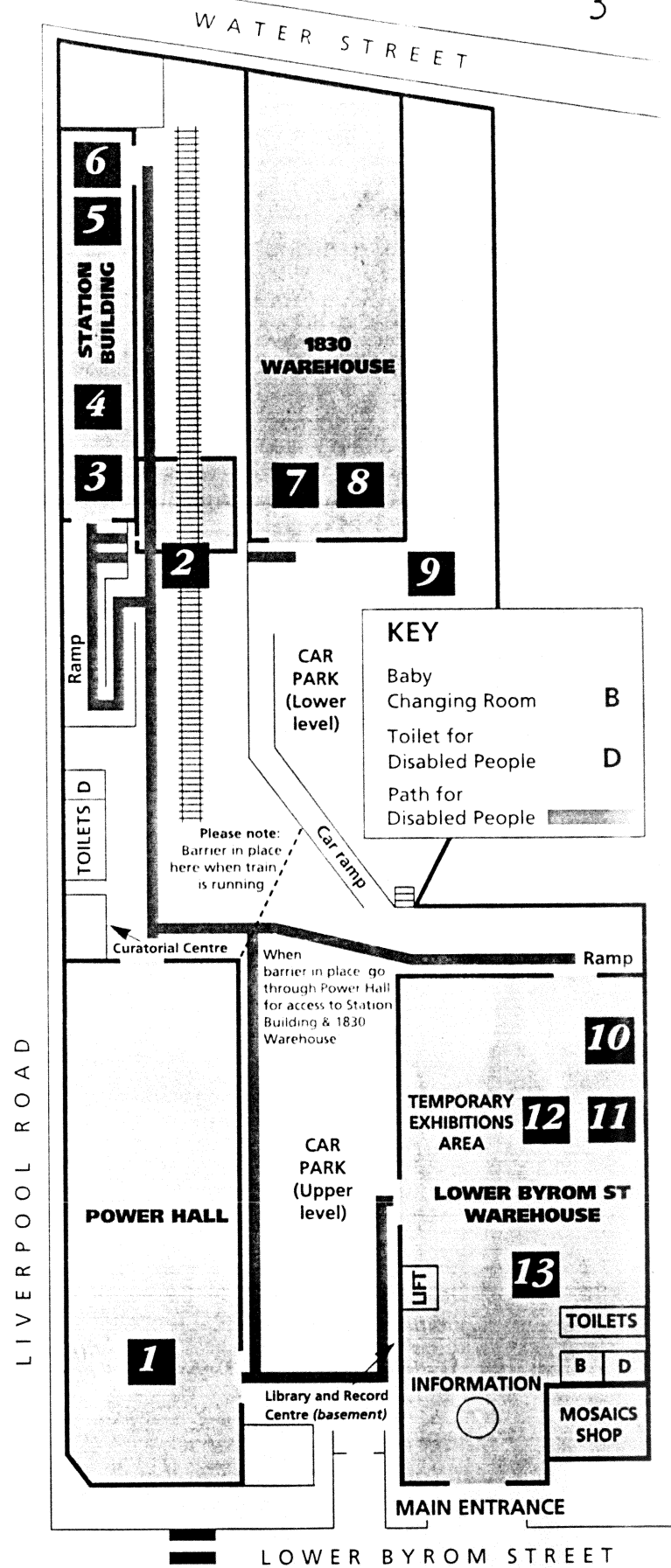


The Museum of Science and Industry is a place of fun and fascination, with working exhibits bringing the past vividly to life. To help you make the most of your visit, we suggest that you might wish to follow this route. Our staff are available to help you enjoy your visit to the full.

- 1** The **POWER HALL** houses the world's largest collection of working steam mill engines (demonstrated every day) and some of the finest steam locomotives ever made.
- 2** The **GAS GALLERY** is located in the railway arches under the track. Explore 200 years of gas history, visit a 1930's gas showroom and meet an intelligent pig. (*Gas Gallery entrance at the bottom of the pedestrian ramp*).
- 3** The **MAKING OF MANCHESTER** (*street level*) tells the story of the world's first industrial city from Roman times to the present day. Audio-visual show available.
- 4** **UNDERGROUND MANCHESTER** (*basement*) traces the development of water supply and sanitation from Roman times to the present. Walk through a reconstructed Victorian sewer – complete with sounds and smells!
- 5** Visit the **FIRST CLASS BOOKING HALL** (*street level*) of the world's oldest passenger railway station (1830).
- 6** The **CAMERAS** and **MICROSCOPES** exhibitions (*track level*) contain examples of some of the finest cameras and microscopes made locally.
- 7** The **ELECTRICITY GALLERY** explores the development of electricity and how it has revolutionised our daily lives.
- 8** **ENERGY FOR THE FUTURE** (*top floor, Electricity Gallery*) explores nuclear power and renewable forms of energy.
- 9** The **1830 WAREHOUSE** is the world's oldest railway warehouse. Work is now in progress to repair and renovate the building which will house galleries, exhibitions and services for visitors. The first exhibition will open to the public at the end of 1993 (*Viewing point*).
- 10** Visit the **MACHINE TOOLS GALLERY** (*ground floor*) and watch work in progress in the museum's restoration workshop.
- 11** The **PRINTING GALLERY** (*ground floor*) traces the development of the printing press and contains many working examples (regularly demonstrated).
- 12** The **TEXTILE GALLERY** (*ground floor*) explores the development of the textile industry from manual spinning wheels to machines such as the spinning mule (regularly demonstrated).
- 13** Explore **XPERIMENT!** (*top floor*) and have fun with light and energy in our hands-on science centre. Our Xperiment! team are on hand to help you explore the gallery!
- 14** The **AIR AND SPACE GALLERY** is packed with the 'planes that made flying history. Try our Super X Simulator – you can experience the thrills of flying without having to leave your seat (additional charge – last ride at 4.30pm).
- 15** The **OUT OF THIS WORLD** space gallery (*balcony*) explores space through fact and fiction, using colourful hands-on exhibits.

For further information about galleries, exhibitions or collections please contact our Curatorial Centre Reception (adjacent to Power Hall).

If you have an interest in Manchester's industrial history visit our Library and Record Centre



TOILETS
All ground floor toilets located as shown.

Additional toilets (including disabled) available on first and second floors of Lower Byrom Street Warehouse (main entrance building).

We collect all references to LION. Below we quote an answer to a correspondent taken from the Railway Magazine, March 1955.

The Locomotive "Lion"

The historic 0-4-2 locomotive LION was built in 1838, by Todd, Kitson and Laird, of Leeds (predecessors of Kitson and Co. Ltd.). It has 12 in. by 18 in. cylinders, with flat valves on top worked by gab motion. The coupled wheels are 5 ft. dia., and the trailing wheels 3 ft. 7 in. The boiler is 3 ft. 9 in. dia., with 97 tubes, and carries a working pressure of 50 lb. per sq. in. The tractive effort is estimated at 2,160 lb. The weight in working order is 26 tons 11 cwt., and the length of the engine and tender over the buffers is 31 ft. 8 in. The London & North Western Railway, as successors to the Liverpool & Manchester, sold the LION in 1859 to the Mersey Docks & Harbour Board, and for nearly seventy years it

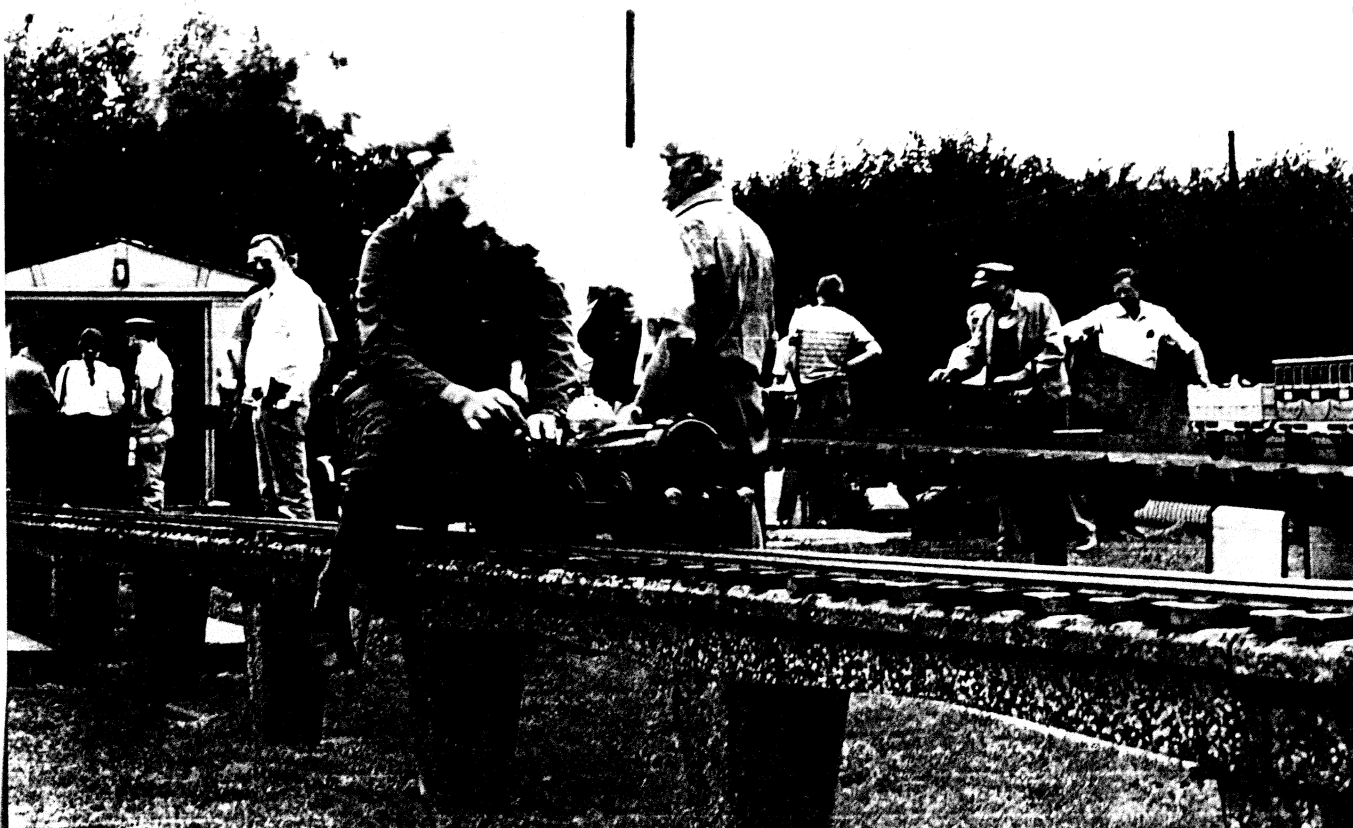
was used as a stationary engine for the chain pumps at Princes Graving Dock, Liverpool. Electrically-worked pumps were installed in 1929, and the LION was then withdrawn from service, and presented to the Liverpool Engineering Society. It was overhauled and rebuilt for its new owners in 1930 at Crewe Works, where it was supplied with a four-wheel tender. After hauling a replica train of original Liverpool & Manchester stock for a week at the centenary celebrations in Wavertree Park in September, 1930, the engine was exhibited on a plinth at Lime Street Station, Liverpool, but was later removed to Crewe Works. It is still the property of the Liverpool Engineering Society, and is at present stored at Derby Works. The LION has been loaned for filming on occasions - for "Sixty Years a Queen" at Bricket Wood, in 1937; for "The Lady with the Lamp", at Cole Green, and "The Titfield Thunderbolt" on the Camerton - Limpley Stoke branch, in 1952. On the last occasion, it was renamed 'Thunderbolt'.

From: Geoff Wright

FEEDBACK

Many thanks for the latest LIONSHEART. As one who has never even seen LION in working order, let alone in steam, I thought the article 'Lion Around' was most interesting.

This page: Mike Cox's 'Coppernob' at the 1993 LIONSMEET.
Opposite page: Mike Cox with his LION.





More sad news in a letter from David Savage, Secretary of High Wycombe Model Engineering Club:

I regret to have to inform you of the death, at age 78, of your member, and our President, Mike Cox.

He was a prolific and painstaking modeller who, in addition to several stationary engines, had completed some fourteen steam locos, with the emphasis on old timers such as "Lion" and "Coppernob".

As you will know, it was he who inspired our club to offer to host "Lionsmeet 93", and he must have been

DEATH OF MIKE COX

well pleased with the success of that, for us, novel exercise.

With his background in piloting flying boats in WW2, long experience in the engineering industry, and his willingness to advise and help other club members, he will be sorely missed by us and, I expect, also by OLCO.

The one consolation is that he was actively engaged in the hobby almost right up until the end.

MUSEUM VISIT, A.G.M. AND DINNER

Page 3 shows the extensive galleries which you can tour at the Museum. One day is hardly enough to do them justice.

Manchester also offers enough attractions to justify a weekend stay. Just for example, there's the Museum of Road Transport (tel: 061-205 2122) or river trips on the Irwell and the Manchester Ship Canal (tel: 061-832 9090). Many visitors find the Granada Studios Tour (adjacent to the Museum) interesting.

If you need accommodation, close to the Museum is the small Commercial Hotel (tel: 061-834 3504) or larger Castlefield Hotel (tel: 061-832 7073). Both of these are located in Liverpool

Road. In Water Street (a few hundred yards from the Museum) is the Victoria and Albert Hotel. Piccadilly Plaza (about 1 mile from the Museum) hosts Manchester's premier hotels, the Piccadilly Hotel (tel: 061-236 8414), the Britannia (tel: 061-930 1000) and the Portman.

Manchester is easily reached by road and motorway, has fast electric and diesel train services from all parts of the country and sports an international airport. Add to this a modern supertram system, a Harry Ramsden's Fish and Chip Restaurant and a host of attractions we've not mentioned: there should be something for all tastes.

LION AROUND

by Adrian Jarvis

The article ended in the last issue with the arguments favouring more steaming for LION in the following year.

At the Museum, we were all agreed, Ruston Diesels were enthusiastic and various organisations had already requested LION's presence. When, therefore, she was winched back down the ramp into her basement domicile, almost immediately we began to prepare for the next year's tour, both administratively and physically. The former proved simple enough, and almost everything was organised at two Saturday morning meetings in Liverpool. The latter proved less easy, as we had rather underrated the diminution in workrate occasioned by attempting to prepare for a boiler survey in a public gallery, with no inspection pit, no overhead lifting gear and lots of people around to ask silly questions and/or steal our tools if they had the chance!

However, all was accomplished by the appointed time, the boiler inspector went his way happily and the mighty Burrell again took up its place in the yard. Wet weather in the preceding few days had made the job much more difficult than on the previous occasion, for the Burrell's 15in square chocks started to sink on two occasions, causing the engine to ride up several inches before LION could be secured and a new purchase gained on a fresh bit of ground. Much later than she should have done, LION eventually sat safely on the transporter again, and departed to be railed at Newton Heath, where an examination under steam was carried out before making a second trip to Dinting. So began a tour which changed our minds about the benefits of trotting round the country with what was, by now, the SECOND oldest working locomotive in the world (thanks to certain damn'd rebellious colonials at the Smithsonian having put 'John Bull' in steam!).

At this point I shall cease to identify the precise locations of various happenings to spare blushes and also ensure that someone, somewhere might speak to me again. For there follows a catalogue of trivial disasters which reads like a sort of antithesis to a nineteenth century locomotive's catechism. In no particular order, here goes.

Have you heard the one about the chap who was going to wash out LION's

boiler? He removed the plug in the front tubeplate, the four round the foundation ring and the two mud-lids quite easily, but could not shift the six across the upper part of the rear wrapper plate at all. Detected in the attempt, he was surprised to learn that no washout plugs are there, but there are six male squares on the ends of the longitudinal stays. It struck me as quite fortunate that he did not succeed in unscrewing them. On this same occasion, it became clear that the washout plugs were really not going to seat whatever miracle gunge was used, and the threads were re-cut, with moderately successful results. When dry, they still did not seat very well, but would hold tight if we used things I'm not going to name for fear of the correspondence column.

Another minor diversion had involved the thread on the whistle spigot failing, which caused the whistle to blow - several feet up in the air. Fortunately, the 'Museum rep of the day' was on the ball and extinguished the fire while members of the resident team fetched a diesel shunter to haul LION up and down with the feed pumps on until things were peaceable again. The incident impressed on us the necessity to keep an eye on ALL bits of old metal whatever their function: for example, Ruston's had scrutinised the clack mounting studs most carefully, but no one had thought that all the repeated whistling at short-run venues would impose (as it did) an undue sideways strain on elderly threads. Subsequently, we found what was probably the real culprit, a slight 'pick-up' on the taper of the whistle cock. A small thing indeed to cause a notifiable accident and potential injury to those standing around when the whistle descended. Repairs were effected.

By the second year, the members of Museum staff had gradually come to trust the people operating the various private lines. In nearly all cases, this was entirely justified, but there were occasions when our trust was wrongly placed, as when the 'rep of the day' went for tea while some shunting was done. Now the side chains coupling LION's tender to the replica open second coach are an additional

safeguard: they are not intended each to be strong enough to stand a good, snatchy start on their own. There was a mortal who put on a longish coupling centre chain and took the full force of a start on curve on the side chain, with undesirable effects on the head beam of the carriage. What next passed through his 'mind' is uncertain, but in order, presumably, to make sure that the centre chain was too long, he proceeded to repeat the exercise on an opposite curve, with altogether predictable results. We were not happy, either, at what had happened - and needed repairing. Quite literally, we could not take our eyes off the train for a moment.

At another venue, we had two nasty occurrences which were not the fault of anyone in particular. The first resulted in another short trip up the dirt, again without damage, and the other resulted in your scribe making a long trip by road much earlier in the morning than he really likes. This was to investigate and to repair a crack in a place which looked as though it could be dangerous. Of both these, more later.

Less tangible, but at least equally annoying, was our gradual realisation during the season that LION was no longer being treated with the same reverence that had attended the first tour. One incident convinced us that never again will she travel without an 'escort' from the Museum's staff. A driver for a haulage firm we use regularly just happened to pull into a motorway service area and was surprised (indeed as a Merseyside ratepayer I think one might describe him as outraged) to see LION standing on a semi-trailer overnight, without unit, crew, or security man - NOTHING. It was only by good fortune that neither the souvenir hunters nor the Non-Ferrous Metals Liberation Society got at her and that LION arrived at the destination none the worse for this negligence. The same haulier succeeded, despite warnings, in sending a vehicle with an enormous six-wheeled unit which could not make the awkward turn in the Museum's back yard, which made necessary a nail-biting exercise using cranes. LION does not take over kindly to being transported by a large shop crane with full beams and spreaders. Lifting the locomotive with a mobile crane off a busy road, over a pavement and wall and on to ground that was less than firm is an exercise which will never be repeated on any pretext whatsoever. By now, readers will have begun to realise that this somewhat lengthy chronicle is working round to an explanation of why it is that the

lovers of old steam engines will not be seeing LION around this year. The answers may certainly be derived entirely from the foregoing, but may be summarised as follows. After an immensely successful first year, the second encountered difficulties, both from human error and mechanical causes. The majority of those who had anything to do with the running of LION, whether professional or amateur, exhibited a high degree of competence and diligence, but it was proved to us that you cannot trust all of the people all of the time. When dealing with a locomotive which is not merely the 43rd preserved example of its class but UNIQUE, you cannot trust ANYONE AT ALL for ANY of the time. This makes the running of the locomotive a burden: socially, for the museum staff, and financially for the borrowing organisation. It adds up, in fact, to gross overmanning.

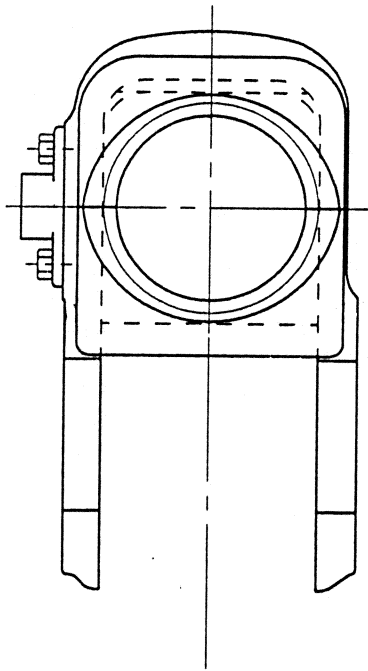
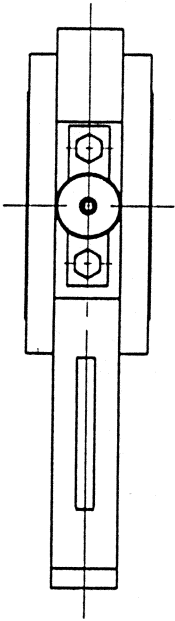
Far more serious, though, was the realisation that LION was not, after all, mechanically infallible. Wear could occur and parts could fail. LION will not go anywhere until we have dealt with two problems: a thin flange on a leading wheel and the crack already mentioned. We are presently working with a local technical college to devise a means of building up the flange in situ. If this proves successful, using a scrap axle, we shall go ahead and do the job.

The crack is located in a lobe on the inside end cylinder cover, which supports the crosshead slide bars. It has been repaired temporarily with 'Sifbronze', which is an ethical material to use as it can be sweated off later, reinforced by a mild-steel clamp. Considerable dismatling will be necessary to effect a decent repair, as its position is such as to require welding operations which are 'not recommended' and also reminiscent of the deposition of guano. We have yet to resolve the ethical question of what to use, for the normal guideline of 'what would have happened to it during the engine's working life' is inapplicable. We know quite well that the Liverpool and Manchester Railway would have cobbled and end cover from a dead locomotive to fit, but we lack the useful heap of broken machinery upon which they demonstrably drew when repairing LION. The answer, again on grounds of 'reversibility', may well be to use 'Sifbronze'.

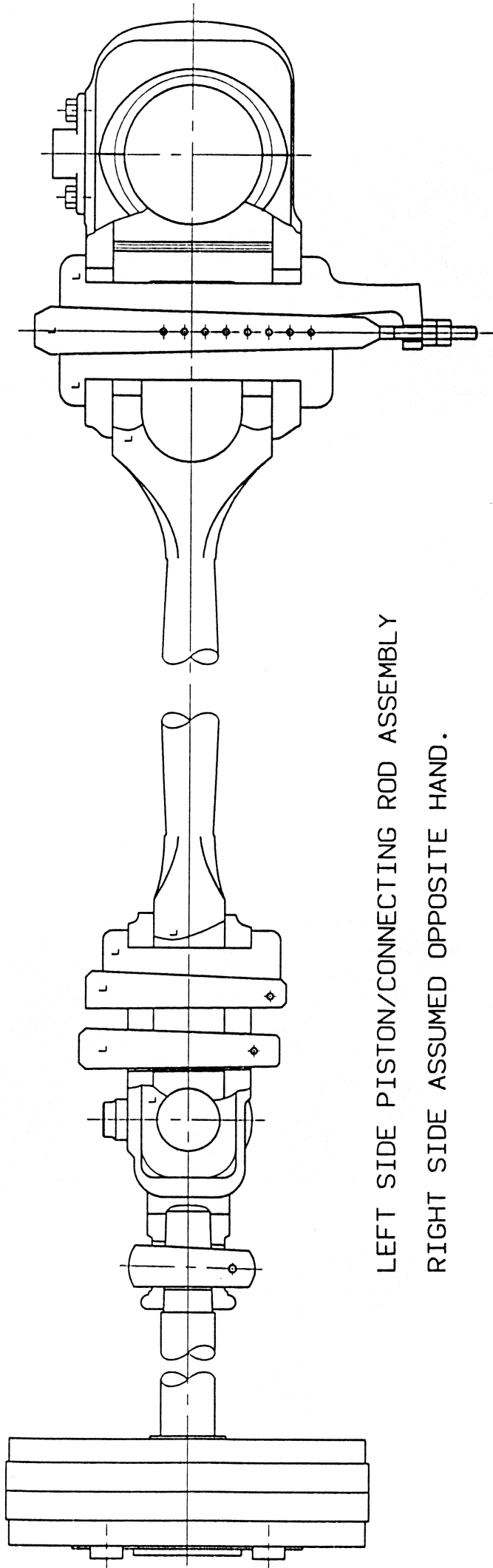
'When might we see LION in steam again?' My answer to this - and I must emphasise that it is only a personal opinion, not an official policy - is

THE JOHN HAWLEY SURVEY

On the next two pages of this issue, we publish John's drawings of LION's piston rod assembly, connecting rod and big end. Drawings as published here are to no particular scale and dimensions are intentionally omitted. Scale, dimensioned drawings will be available in the future.



BIG END ASSEMBLY - LEFT SIDE
SCALE ~ NOT TO SCALE. MASS - 60lb.
RIGHT SIDE ASSUMED SIMILAR.



LEFT SIDE PISTON/CONNECTING ROD ASSEMBLY
RIGHT SIDE ASSUMED OPPOSITE HAND.



These photographs (by John Hawley) show the items drawn on the previous pages. The upper view shows the big end of the connecting rod. The lower view shows the strapped-up big end. The two semi-circular big end brasses show up well, together with the oil grooves fed from the oil cup mounted on top of the big end.



(continued from page 7)

that LION will probably remain inside the Museum at Liverpool until its 150th birthday, when it would seem churlish not to arrange some sort of celebration. However, this does not constitute a promise of another tour, for it is quite possible that by then we might have a railway line of our own

connecting with the new Maritime Museum. So the birthday party may well remain in Liverpool. By then, in all probability, the risk of getting trampled to death by hordes of sociologists looking for Toxteth will have receded somewhat.

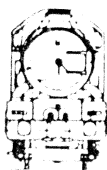
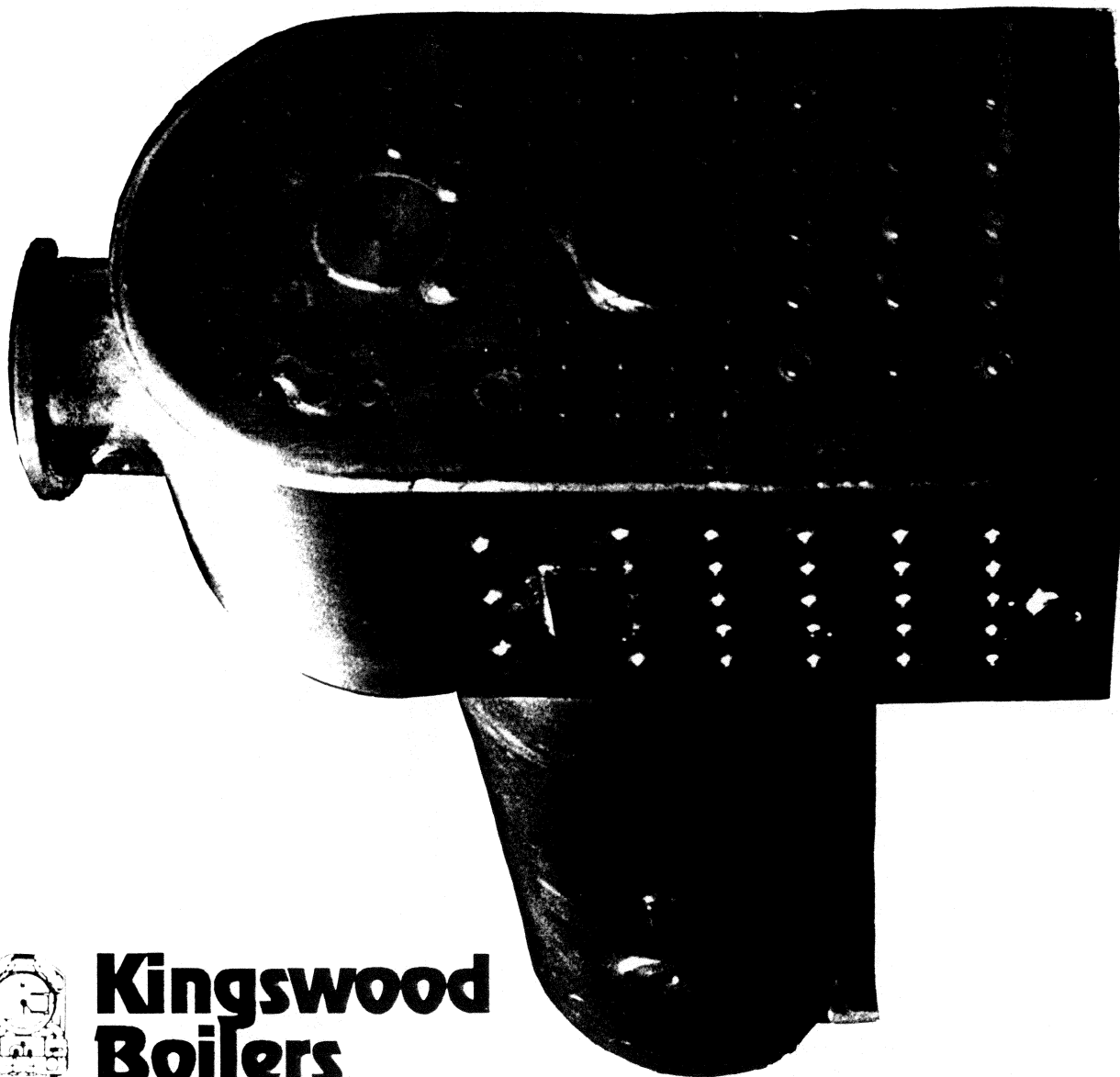
(This article was written some years ago, of course).

A 7-1/4" GAUGE BOILER FOR LION

I enclose a 3/4 rear view of the 7-1/4" gauge model boiler, showing the faithful reproduction of the backhead rivets, which may be useful to members who are thinking of obtaining a boiler. It was built for me by Pete Carr.

The boiler is to my own design, with help from other OLCO members, and is based upon Eric Lindsay's boiler. So far, three are in existence - David Neish, Geoff Wright and myself being proud owners. Soon, we hope, Geoff's will be steamed.

John Hawley



Kingswood Boilers

5, Bellevue Road, Kingswood, Bristol. BS15 2TT
Telephone: Bristol (0272) 678734

PETE CARR

Copper Boilers for Locomotives, Traction Engines,
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LIONSMEET 1994

FRIMLEY LODGE PARK

As already notified in these pages, LIONSMEET 1994 will be held on Sunday 14th August, at the Frimley and Ascot Locomotive Club's track at Frimley Lodge Park. From the plan of the track, this certainly looks different from anywhere we've been previously. Not only is it a ground level track, but it is also long - 5/8th mile long (take your sandwiches with you - it might be a long time before you get back!). There are also some quite interesting gradients, which should make the judging of load a fine art.

For those of you who are as unfamiliar as I am with ground level driving, I am assured by Peter Gardner that LION is quite easy to drive in this mode. There are a few driving trucks which can be made available to us, but if you wish to adapt your own, obviously everything must be above rail level, and it is suggested that footrests be 1" - 2" above rail level, with a seat about 6" - 8" above that. The short tender of LION is then easily over-reached, and stability is not impaired.

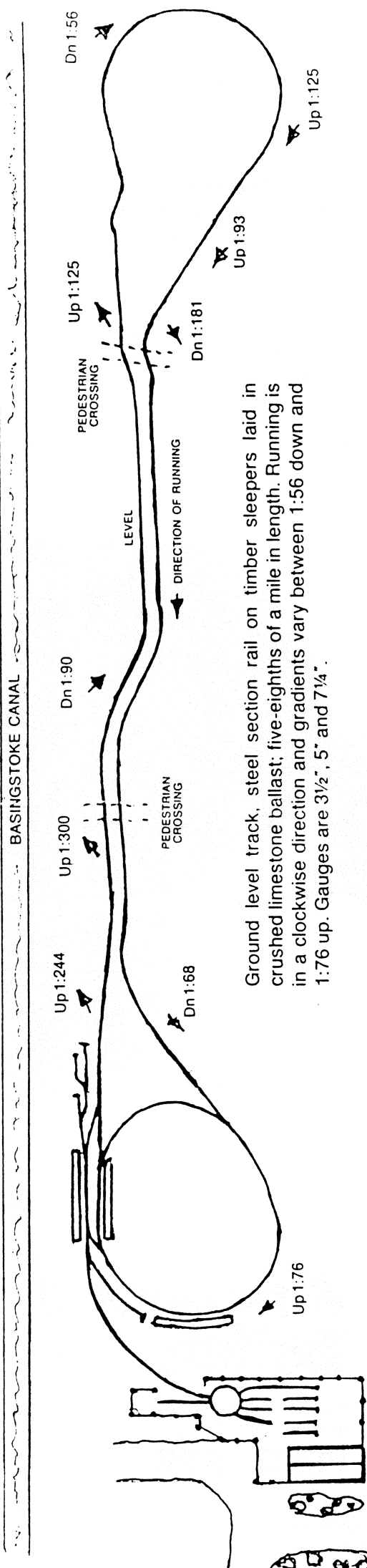
Wheel profiles of loco and driving trucks must of course comply with the template attached, but there should be no problems if made to the recognised standards (my LION was originally built 1/4" under gauge on the front axle - how it stayed on the rails I don't know - but having just retired it, it is now OK for ground level pointwork).

A map of how to get to the track is included, but I am advised that there are major roadworks in Frimley and at Junction 4 of the M3, but if necessary a revised map will be issued nearer the time.

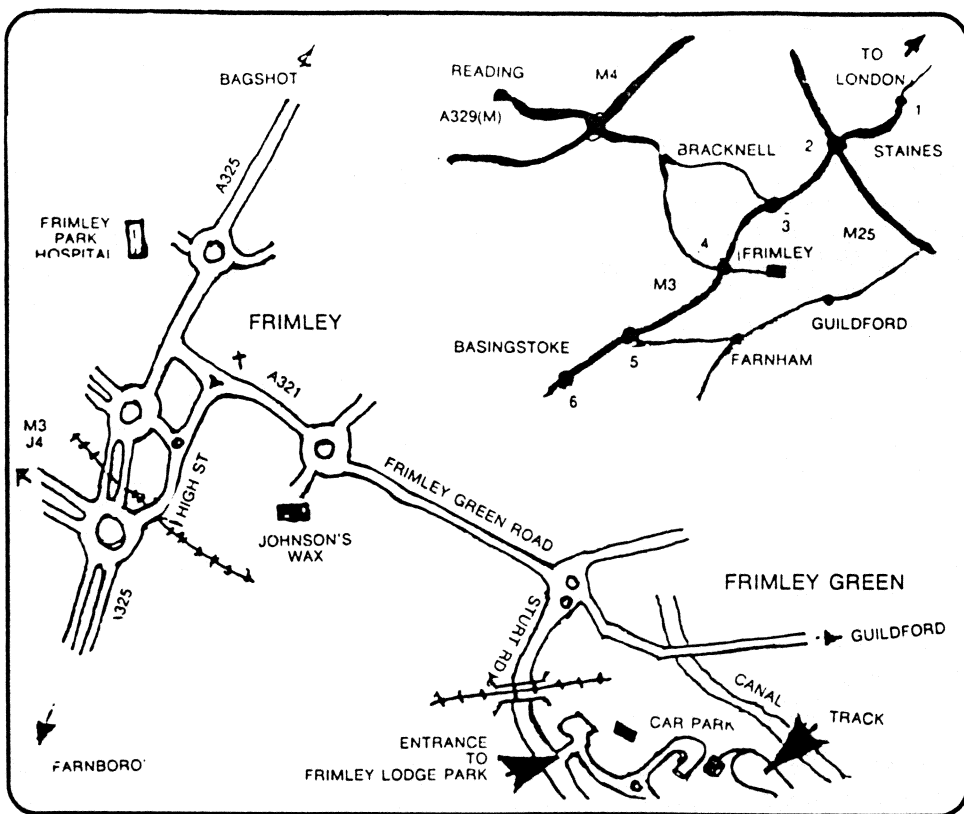
We look forward to seeing as many members as possible at LIONSMEET with as many LIONS and other early locos as they can muster to make this yet another memorable event.

Frimley Lodge Park, where the track is located, has large open spaces, wooded areas and is adjacent to the Basingstoke canal. The park offers sports pitches, picnic areas, dog exercise area, pitch and putt green, canal walk, children's play areas, pavilion, trim trail, leisure walks, barbeque facilities and three car parks. Public toilets are located in the park pavilion some 250 yards from the track where light refreshments and meals can be obtained from the cafeteria. Numerous restaurants are only a short drive away.

Mike Parrott



Ground level track, steel section rail on timber sleepers laid in crushed limestone ballast; five-eighths of a mile in length. Running is in a clockwise direction and gradients vary between 1:56 down and 1:76 up. Gauges are 3½", 5" and 7¼".



The site and track will be open from 10 a.m. on meeting dates.

For club events lasting two days or more campers and caravans will be able to park overnight (camping by the general public is not permitted).

Park gates will be closed at sunset.

There is a toilet in the carriage shed (see previous page for other facilities).

Carriages are available but please bring your own driving trucks.

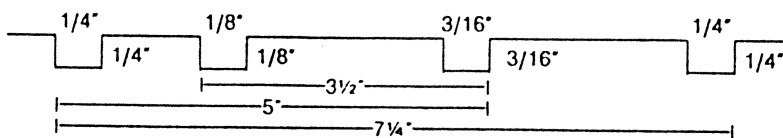
Supplies of coal, oils and mains water are available and there is 12v DC power for blowers.

Before running drivers must produce a valid boiler certificate and membership card. All drivers will be issued with a copy of guidance notes for safe running.

When night running front and rear lamps must be fitted to the loco/train.

NB: Wheels must comply with the standards shown below to avoid track damage. All wheels will be checked on site and if not in compliance shall not be permitted on the track. Wheels to standards set by Martin Evans/Tubal Cain are acceptable, e.g. 7¼" gauge back-to-back should measure 6.8".

The standard requires flanges to pass through this template which is not to scale:—



Will Members please note that the subscriptions for 1994/1995 are due on 1st April. Do please remember that the subs agreed at last year's A.G.M. are now to be £8 for an individual member, £10 for family membership, and £15 for institutions. I have already received several advance subscriptions (hooray!) but at the old rate (boo!).

FROM THE SECRETARY

No news is not always good news, and the long silence after our initial high hopes of bringing LION back to steamable condition had made me rather wary. But it's still an unpleasant shock to think that LION may never steam again.

Of course, the curatorial arguments were always there for conservation in non-working order. It's a fine balance between the need to preserve as much of the original for future generations as possible, against the mission to explain, to interpret the artefact meaningfully to people.

It's not altogether surprising that the Museum have finally decided as they have. But the long delay is unfortunate. For me, LION is so special that I believe you have to see her in steam to understand.

Well, the axe has finally fallen. So, Whither OLCO? or Wither OLCO? Do we need to change direction or, like LION, have we run out of steam?

The modelling side is unaffected by the Museum's decision and the interest in the history and construction of LION remains.

But OLCO's other role as support crew for LION has gone. Does this matter? Is there enough interest to keep the group viable without the anticipation of prototype steamings?

There's an AGM coming up and this one will be perhaps the most important in the history of the group.

LIONSHEART is published by OLCO

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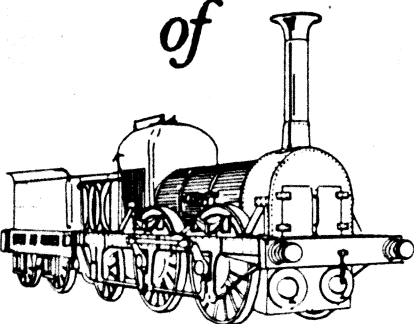
Address for correspondence:
c/o The Secretary
Old Locomotive Committee
Brewood Hall
Brewood
Stafford ST19 9DB.

Telephone: 0902 850095 (evenings)

This special envelope was produced for the 150th birthday of LION and the Travelling Post Office. It makes an interesting souvenir and we understand that copies are still available from Birmingham Railway Museum.

150 YEARS

of



LION

BIRMINGHAM RAILWAY MUSEUM

