

# LIONSHEART

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SUMMER 1989

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## LIONSMEET 1989

LIONSMEET this year will be held on Sunday 27th August at the Cheltenham Society of Model Engineers track. This is a raised track and, for those members who wish to bring their own driving trollies, please note that the minimum ground clearance is only eight and a half inches from rail level. Track formation is nine and a half inches wide. We have asked our hosts if they can arrange to have driving and passenger trollies available for our use on the day, but if you have a trolley which will be suitable and can bring it, so much the better. Current boiler certificates will, of course, be required for those engines which are to be steamed.

The format of the day will be as in the past, with the track available for any locomotives to run in the morning. David Neish is hoping to bring the Guildford Dynamometer Car for the competition to see which engine can do the most work in 10 minutes, with one engine on the track at a time, followed by further running for those who wish in the afternoon.

## OLCO BARBECUE

On the 1st July, a Barbecue was held at the home of Vernon Smallwood in Newton-le-Willows. As well as the members from OLCO NORTHWEST, a number of Vernon's local friends together with the Chairman, Secretary, former Secretary and his family and your Editor joined in the fun.

There was plenty of talk on railway topics, particularly concerning BELLEROPHON (the preserved locomotive which owes so much to Vernon's efforts) and, of course, LION. Although people travelling to the Barbecue had encountered heavy rain, at Newton it remained a perfect summer's evening.

By common consent, it was agreed that this should become at least an annual event and any Member will be welcome at future gatherings. LIONSHEART will announce the arrangements in due course.

The location of the track, just off the M5, should make it easy enough to get to for the day for some members, but, for those wishing to stay overnight in the area, the Cheltenham Society have sent us a list of hotels, self-catering accommodation and campsites in the area. As this runs to some 11 pages of A4, it is too lengthy (and heavy!) to include in LIONSHEART, but those who require assistance in this direction should contact:-

Mike Parrott  
49 Pontneathvaughan Road  
Glyn Neath  
West Glamorgan  
SA11 5NS

or telephone (0639) 722360 after 7.30 pm (when the chimney sweep and his apprentice should be in bed). Prices range from £75.00 per night per single room down to under £10.00, including breakfast and VAT.

If the Cheltenham weather is as good as that at Llandudno, this should be another great day out.

## OLCO ANNUAL DINNER

Following the Annual General Meeting, the OLCO Annual Dinner was held at the Chatsworth House Hotel, Llandudno. OLCO members were joined by members of the North Wales Model Engineering Society, Miss Lorraine Knowles and guests who had assisted by bringing models for the re-enactment. Around 50 people enjoyed a very pleasant meal (and the lights remained on throughout!)

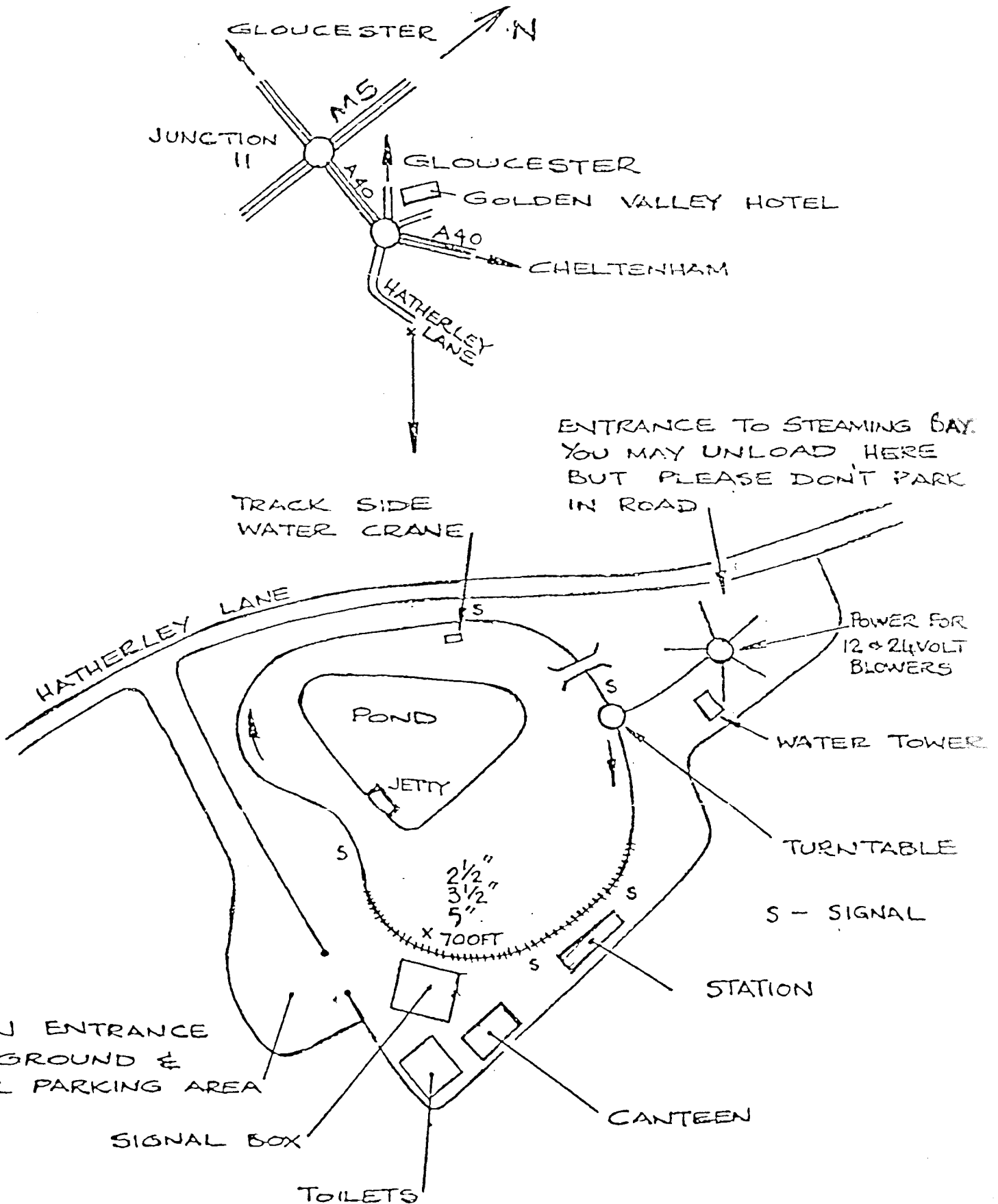
IMPORTANT

ANNOUNCEMENT!

Please turn to Back Page

LIONSMEET 1989

As announced on the front page, LIONSMEET this year will be held at the Cheltenham Society of Model Engineers Club Ground, Hatherley Lane, Cheltenham. Here's a location diagram to help get you there and a site plan, showing the excellent facilities.



The fifth annual Annual General Meeting was held at the Chatsworth House Hotel, Llandudno, on 27th May. Mr. E. F. Clark, the retiring Chairman, reminded those present that OLCO is peripatetic, having visited Wroughton, Liverpool, Leeds, Dinting, Crewe and Llandudno on successive AGMs. He thanked Bob Stark and all the members of the North Wales Model Engineering Society for their work in developing Charles Taylor-Nobbs idea of the re-enactment into a reality. The meeting passed to formal matters, minutes of previous AGM, Executive Officers' Report, Report from the North-Western Section, Adoption of Accounts, Rates of Subscription and the Election of Executive Officers. The retiring Chairman paid tribute to the hard work of all the Executive Officers plus the original Steering Committee. He extended his personal thanks to all of them, particularly Charles Taylor-Nobbs.

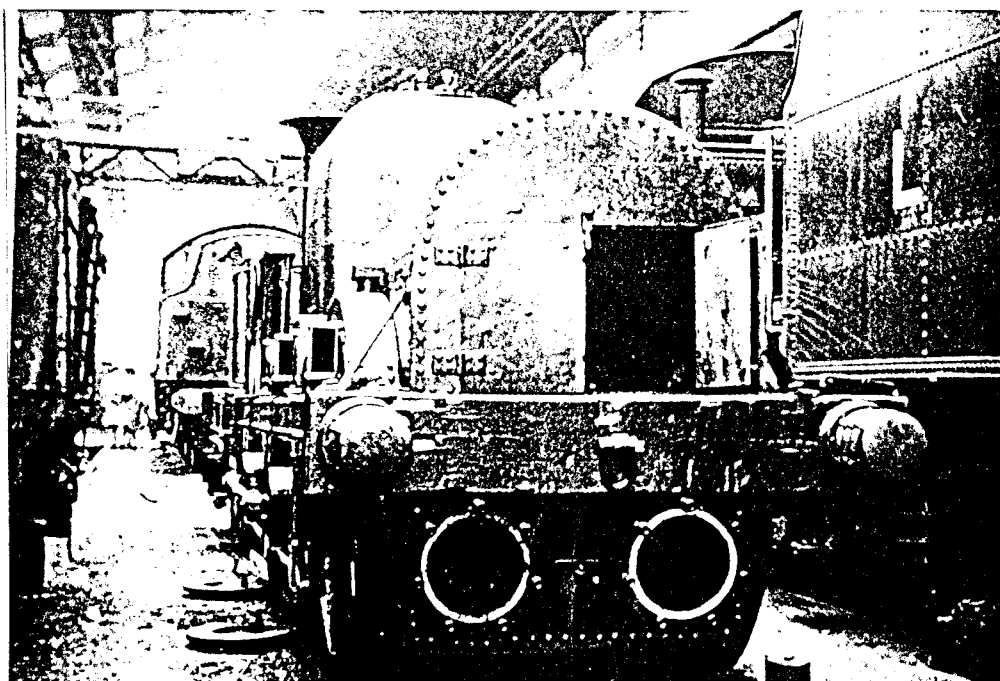
After the Election, the incoming Chairman, Mr. Alan McKirdy stated that if he could do a quarter as good a job as Mr. E. F. Clark, he would have achieved something. Both Mr. Clark and Mr. Taylor-Nobbs were indispensable, he continued, and hoped they would both be back. Miss Lorraine Knowles of Liverpool Museum then addressed the meeting (see report).

To publicise the 'Coronation Scot' service to Scotland, in 1937 the L.M.S. made a film showing LION, the L & N W R 'Coronation' and their new, streamlined 'Coronation' running on parallel tracks near Colwyn Bay.

This event was re-created, in miniature, on May 28th this year at Ysgol Gogarth School, Llandudno. The weather was ideal and OLCO members, members of North Wales M.E.S., Mold M.E.S., guests and visitors had a memorable day. An extensive exhibition had been set up inside the school and, in addition to the re-enactment on a series of portable tracks, there was running all day on the North Wales M.E.S. permanent, continuous track which is situated within the school grounds. A number of LIONS were steamed. Thanks to all the participants for creating such a special event.

#### FEEDBACK

Your Executive Committee are exploring all sorts of avenues for the future. But, please, let us know what you would like to see OLCO involved in, let us know what you are prepared to do to assist. It's your Society and we need to know your views. We'll publish letters of general interest in future LIONSHEARTS. Please write to the Secretary (address below).



This historic photograph shows LION during her restoration at the Crewe Works of the L.M.S. in 1929/1930 after her rescue by the original Old Locomotive Committee.

Miss Lorraine Knowles, the Curator of Local History at Liverpool Museum, is now responsible for LION. She kindly consented to speak to the OLCO AGM about developments within the museum and future plans.

Miss Knowles expressed her thanks for the opportunity to meet the OLCO membership and explained the restructuring of the National Museums on Merseyside. In 1986, Liverpool Museums became funded nationally by grant-in-aid, like the National Railway Museum and the Victoria and Albert. The grant is determined every 3 years to cover 95% of costs, the balance derived locally by sponsorship and commercial activities. Management is through a Board of Trustees appointed by the Prime Minister.

A staff establishment review has been undertaken, culminating in the adoption of civil service conditions in January, 1989. The Department of Local History forms part of the Maritime History Division and has only a small staff.

Originally, it was hoped to refurbish the Transport Gallery whilst LION was at Birmingham, but this work will not now go ahead.

Miss Knowles stated that the BBC has expressed interest in using LION in an educational series titled 'The Birth of Europe'. However, when it became clear that some work would be required before LION can steam again, it was decided to move LION initially to Dinting, where a comprehensive survey can be undertaken. The cost of this work will determine whether the filming assignment is feasible.

A further complication is that the Museum have been given notice to quit their premises at the Large Objects Store as P & O have obtained outline planning permission for a new development to provide shops, offices and housing. The pressure on accommodation gives the Museum many problems, but there are also many options, including developing the maritime museum site, utilising St. Georges Hall or, in the short term, loaning-out exhibits. Because of the importance of LION, she is not very likely to be lent out.

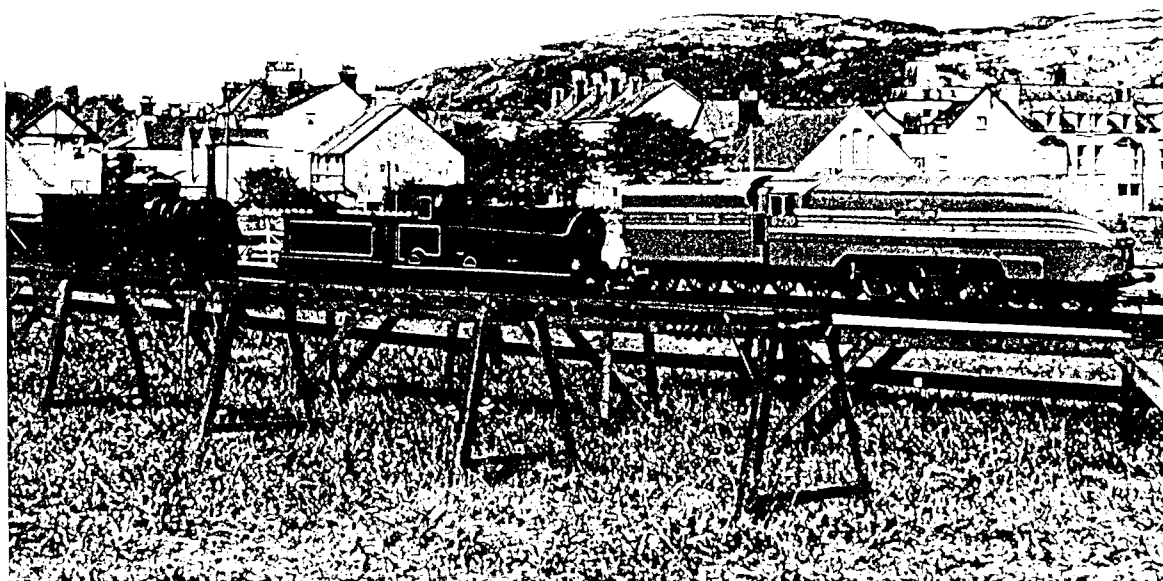
Members were assured that their assistance and support would be welcome in the future in cleaning, moving and, if it goes ahead, filming. There is no danger at all of OLCO becoming redundant, Miss Knowles declared. In answer to a later question, she stated that, with current pressures on museums, the role of curators is changing into that of managers, meaning that outside relationships with groups like OLCO are vital and appreciated.

LION's two inside cylinders have slide valves operated from fixed eccentrics on the crank axle via gab motion. This motion allowed the driver to select forward or backward motion from a lever on the footplate. There is no provision, as in later practice, for altering 'cut-off' as the idea of the expansive working of steam was only just being developed. The valves were designed for a fixed 81% 'cut-off'. LION was originally built with very little 'lap' or 'lead'. Liverpool and Manchester Railway Locomotive Superintendent John Grey and Chief Engineer John Melling carried out experiments in 1838 which resulted in all the Company's locomotives being rebuilt from 1841 onwards with 'lap' and 'lead'. At this time, LION was rebuilt with larger cylinders and a new valve motion of the type developed by William B. Buddicom in 1840 whilst he was Locomotive Superintendent for the Grand Junction Railway at Edge Hill. The Buddicom gab motion was adopted by John Melling for the Liverpool and Manchester Railway.

In traditional Stephenson gab motion, each cylinder is associated with one forward and one reverse eccentric. The spindle of each slide valve is operated by a rocker arm and the 'gab' or semi-circular recess near the end of the appropriate eccentric rod is forced over the rocker to impart the correct movement to the valve spindle. When the operating lever is in the 'Mid-gear' position, no gabs are engaged and the valves remain in the position previously set. Buddicom added two forked guides to assist in the alignment of the rocker arm with the semi-circular recess.

In late 1841, Williams and Howe developed the link motion now known as Stephenson link motion which was fitted to locomotives on the Liverpool and Manchester Railway after 1841. Since LION does not take advantage of this development, it is reasonable to assume that her rebuild was no later than 1841. However, it should be noted that, since LION was used as a banking engine on the Whiston Incline, the improvements to be expected from the adoption of Stephenson link motion would be offset by the requirement for a limited run at maximum effort whilst banking.

Thanks to Barry Smith for providing the information in the above Notes. Barry is currently in Japan. See report in this issue of LIONSHEART.



#### ARCHIVISTS ALERT

So the sesqui-centenary of LION is over, and we celebrated in fine style. LION is not currently steaming but that doesn't mean there's nothing to be done. This relatively quiet period gives an ideal opportunity for those members with an interest in history to carry on researching and try to answer some of the many queries surrounding LION.

If you need to be put in touch with other archivists or possible sources, please write, in the first instance, to the Secretary, address opposite.

#### COAL OR COKE?

Early railway locomotives were normally fired using coke. There was a great aversion to the production of smoke and the specification for entrants for the Rainhill Trials stated that locomotives must 'consume their own smoke'. Coke was produced by the individual railway companies, often by digging pits in which coal could be burned with only a limited air supply, so as to convert the coal into coke. Various experiments were conducted to find a satisfactory way of using coal directly. The problem was solved, in 1848, by the introduction of the brick arch in the firebox by M. W. Kirtley of the Midland Counties Railway. Kirtley later became the Chief Mechanical Engineer of the Midland Railway at Derby.

LION has no brick arch but possesses a large grate area in relation to the rather small boiler. This makes her a 'free steaming' locomotive and she is well-able to carry out her current duties coal-fired.

#### LION RE-ENACTMENT

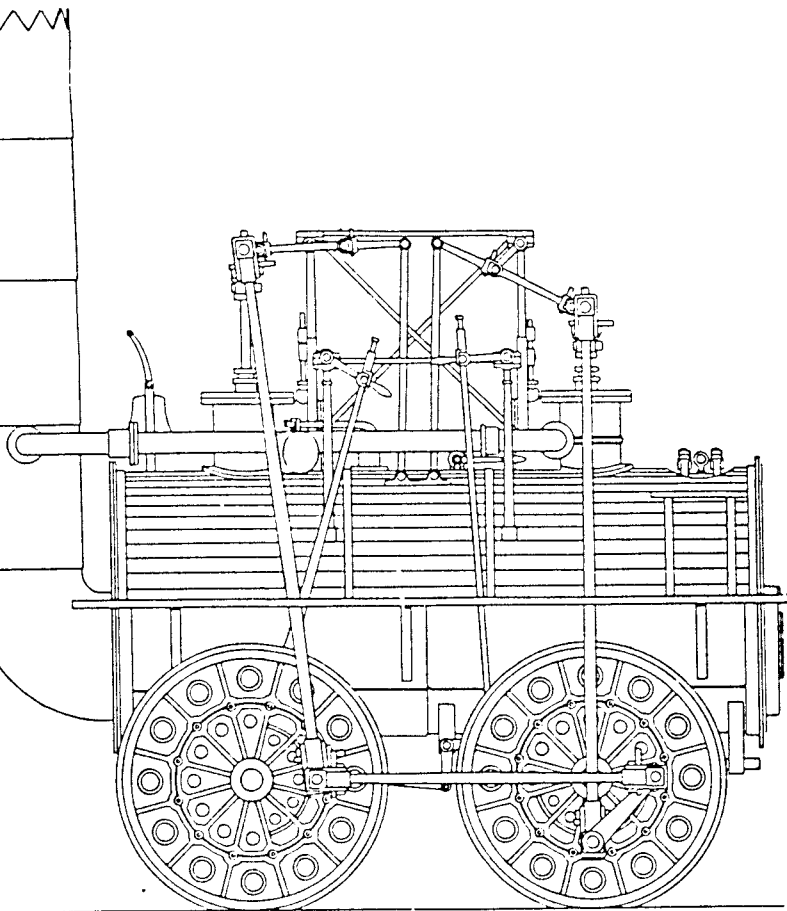
This unique view was obtained at the re-enactment at Llandudno (see report on page 3). We are sorry that our reproduction does not do credit to Eddie Ball's splendid colour shot. Thanks are due to Eddie for most of the illustrations in this edition of LIONSHEART.

#### ALL CHANGE!

At the recent OLCO Annual General Meeting in Llandudno, a new Executive Committee was elected, in accordance with the constitution. Founding Chairman Mr. E. F. Clark retired and, being ineligible for re-election, was succeeded by Mr. Alan McKirdy, who was elected unanimously. Former Secretary Mr. Charles Taylor-Nobbs was also ineligible for a further term and was succeeded by Miss Jan Ford. To look after model engineering interests, Mr. Mike Parrott takes over from Mr. David Neish. Mr. Charles Taylor (Treasurer), Mr. Barry Smith and Mr. Eddie Ball were re-elected to the Executive. Mr. Peter Servis joins the Executive as Editor, Lionsheart.

Jan Ford will be pleased to pass on any communications to the appropriate officer. Please write to:-

The Secretary  
Old Locomotive Committee  
Brewood Hall  
Brewood  
Stafford  
ST19 9DB



THE ENGINEER

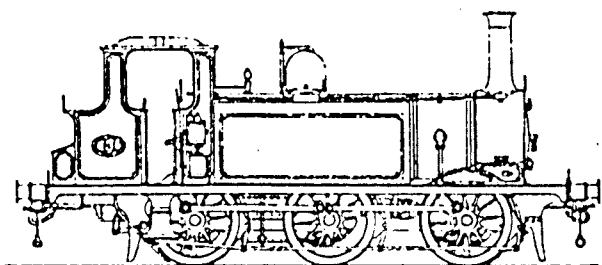
SWAIN 5c

BIRMINGHAM RAILWAY MUSEUM

Thanks to all our friends at Birmingham Railway Museum for looking after LION. A number of their Great Western Locomotives are currently out on loan, so most Sundays they are steaming 'Terrier' tank 'Sutton', built in 1875. This is on loan from the K & E S R until later this year. The Gala day will be held on Sunday, 1st October.

The splendid Great Western signal box is now nearing completion. Once the installation has been formally approved, running will take place from the new platforms, giving a longer demonstration line.

A recent, unscheduled, visitor for tender axlebox repairs was 'City of Truro'. This enabled members to enjoy a memorable evening when rides were given first with the 'Terrier' and then with the record-breaking 4-4-0.



The LOCOMOTION replica, normally based at Beamish Open Air Museum, is currently in Japan to form a principal exhibit for a major exhibition. The intrepid Barry Smith has deserted our shores for a few weeks in order to train the Japanese in the complex skills of running and maintaining such a special exhibit. Jim Rees from Beamish is accompanying Barry and Mike Satow, who was originally responsible for the building of the replica, will be going to Japan shortly.

A special demonstration track has been built for LOCOMOTION, complete with a single-road engine shed based on the design of the stone-built shed back at Beamish.

We wish them all well and look forward to Barry's return with a fund of stories about his experiences.

CREWE HERITAGE CENTRE

OLCO has always had a soft spot for Crewe Heritage Centre, which has been re-launched following the creation of a Crewe Heritage Supporters Society. Part of the site is being sold and the proceeds will be used as an initial grant, after which the venture must be self-financing. A car park is being provided next to B & Q which will connect to the site by a footbridge. The signalling exhibit (including Crewe North Junction signal box) has been re-arranged. This year, the Centre plays host to the steam locomotives working along the North Wales Coast to Holyhead, so there will be a variety of main-line locos around.

The Centre is open to the public from June to September on Saturdays and Sundays. OLCO member Eddie Bellass is involved in publicising the centre and we will be pleased to keep OLCO members advised of developments as they become known.

MANCHESTER MUSEUM

With the assistance of the British Engine Insurance Company, financing for the 'Planet' replica is now ensured and construction is proceeding. Purists will regret the design constraints and use of modern materials necessitated by modern safety requirements but she should prove a fascinating locomotive. The May and June editions of 'Railway World' carried a splendid 2-part article by Michael Bailey describing the project.

The Castlefield Carnival is being held on 16th and 17th September this year and the Railway Weekend on 21st and 22nd October. If arrangements can be concluded, it is hoped that BELLEROPHON can feature in the Railway Weekend.

Having wintered at Birmingham Railway Museum, Tyseley, LION has now been moved to Dinting. Barry Smith was in attendance for the move onto the low loader at Birmingham. Liverpool Museum staff and Jan Ford keeping a watching brief and Peter Servis covered the event for LIONSHEART. After deceptively casual preparations by the transport contractors, Millingtons (father and sons), LION was infinitely slowly winched from the museum track to the low loader in heavy rain.

That evening, it was raining again as the same team of observers and the professional team from Dinting saw LION arrive at her new quarters. LION's rather undignified entrance involved being bodily lifted over the fence by the Dinting steam breakdown crane. This delicate process was achieved without a hitch.

Incidentally, the crane used was one of those which attended the Harrow disaster. After a spell at Gorton, it finished its British Rail career at Longsight before entering preservation at Dinting.

Whilst at Dinting, LION will be surveyed to determine what work is necessary before she can be steamed again. Watch this space for news!

LION was built by the partnership of Todd, Kitson and Laird in Leeds. But the partnership did not survive and in 1839 Todd, together with John Shepherd, set up the Railway Foundry in Leeds. In the same year James Kitson and David Laird set up the Airedale Foundry in Leeds, which continued to build railway locomotives until 1938.

Our former Chairman, Mr. E. F. Clark, who is a descendant of James Kitson, suggested that the sesquicentenary of the opening of Airedale Foundry should be marked by a luncheon on the 13th May 1989.

Around 40 people attended the luncheon, which was held at Armley Mills Industrial Museum in Leeds. The weather, venue, food and, most importantly, the guests combined to produce a most happy and enjoyable occasion. Various memorabilia from the Airedale Foundry were on display. Mr. Clark appropriately described the event as 'an extended family occasion'. Later in the afternoon the Assistant Curator, Mr. Ron Fitzgerald gave guests a private tour of the Museum.

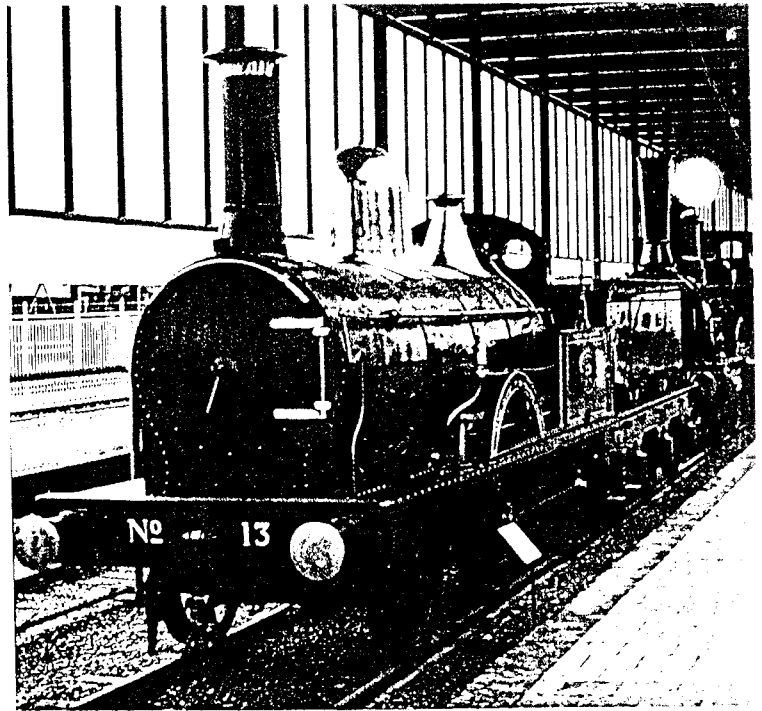


The steam crane at Dinting lifting LION's tender.

This year the Dutch railways, NV Nederlandse Spoorwegen (NS), celebrates its sesqui-centenary with a major festival in Utrecht between June 22 and August 6. The event, titled 'Trains through Time' is being held around the Central Station and the Jaarbeurs exhibition centre. At least twice a day there will be a parade of historic steam locomotives (including 'City of Truro') and a replica of 'De Arend' will carry passengers on a specially-built line. During the festival, there will be a number of main-line steam specials. Our illustration shows the 1865 Manchester-built Beyer-Peacock 2-4-0 at the NS Museum in Utrecht. For more information on NS 150, contact:-

Nederlands Railways  
25/28 Buckingham Gate  
London SW1E 6LD

Tel: 01-630 1735



### LION'S AIR BRAKES

A description by Charles Taylor

Everyone who has seen an old American locomotive in any Western film will remember the rhythmic beat of the steam driven air compressor mounted on the boiler side and delivering compressed air to the braking system.

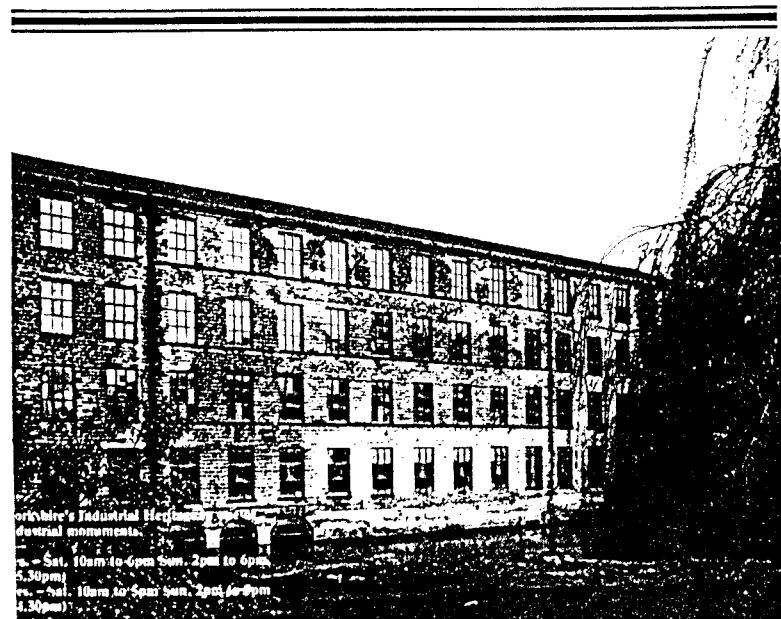
LION is also fitted with an air brake system, although you will look in vain for a compressor.

Locomotives built at the time of LION were fitted with some form of hand applied brake, although a more usual method of stopping involved putting the engine in back gear and using the compression, with or without the help of a little steam, to slow the engine. Over the ensuing years various types of non-automatic train brakes were developed using chains actuated by friction pulleys on the axles, but the more obvious use of steam, air or vacuum cylinders became more usual. After the 1889 Act brakes on passenger trains had to be automatic and self-applying should there be any failure in the system continuity.

So when the Rocket 150 celebrations were being planned for Rainhill in 1980 the three replicas - ROCKET, SANS PAREIL and NOVELTY plus LION had to meet the braking requirements. Obviously fitting a steam driven air compressor to the locomotive side was out of the question and there was hardly enough room underneath. There was an additional complication in that Westinghouse Brake and Signal Company had ceased production of these compressors in 1960, although there were several still in service.



# ARMLEY MILLS



Armley Mills - venue for the Airedale Luncheon earlier this year. Report on page 7.



Bendix-Westinghouse (the automotive arm of Westinghouse) were approached with the general problem. It was decided eventually that a full air brake circuit was impracticable and a spring applied - air released system would be satisfactory. This type of brake is fitted to all heavy commercial road vehicles to provide a secondary and a parking brake, and in essence consists of one or more air cylinders containing a large spring, the force of which applies the brake. The compressed air is used to hold the brake off so that any air failure will cause the brakes to apply.

Because on these locomotives there was neither power supply for a compressor nor a space to install it the air supply is contained in two reservoirs mounted (in the case of LION) under the tender and these reservoirs have to be charged from a lineside compressor before commencing running.

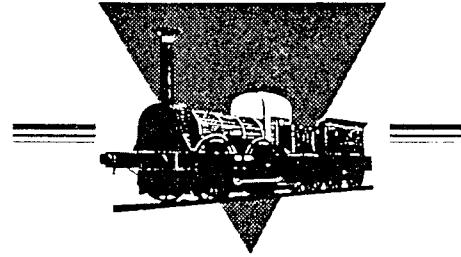
A hand operated control valve is mounted on the tender adjacent to the hand brake handle together with an air pressure gauge. The valve handle is fitted with a locking sleeve engaging in a recess when in the brake-off position so that the brake cannot be applied by an accidental movement of the handle.

The coach is also fitted with spring brake cylinders supplied with compressed air from LION via two flexible nylon pipes fitted with couplings. There is no reservoir on the coach. The guard has a separate hand valve to enable the brake to be applied from the rear of the train in an emergency.

Obviously the capacity of the reservoirs is limited so that excessive use of the air brake is not recommended.

An alternative method of providing an air supply can be found on the Middleton Railway where a brake van has been fitted with an automatic type compressor under the frame using a chain drive from a sprocket fitted to one axle.

Members working on LION must remember that compressed air can be extremely dangerous if mishandled.



## O L C O S A L E S

You can buy various items concerning the LION directly by post. Please write to Mr. E. Ball at 169 Dragon Lane, Whiston, Prescot, Merseyside L35 3QU, enclosing payment, or telephone 051-426 7873 for further details.

Members badges are available to paid-up members at £1.00 each.

Knitted jumpers are also available, from £12.50. These can be ordered in individual sizes, to your chosen colour scheme, with a variety of 'OLCO' designs.

Please note that, at present, videos are not available.

*I'VE RIDDEN BEHIND  
LION BADGE  
50p*

*RAILWAYS IN  
ENGLAND  
£5-00*

*PRINTS, LION  
AT EDGE HILL 1840  
95p*

*ENAMEL LION  
BADGE  
75p*

*POSTCARDS  
15p*

*BRIDES COSTUMES  
£1-00*

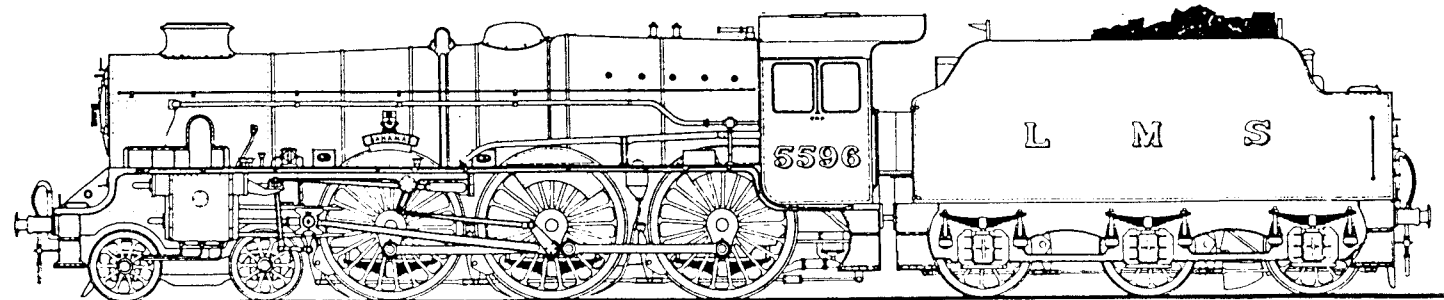
*VIP  
£1 SOLD OUT 50*

*A HISTORY  
OF LION  
£1-00*

*RAILWAYS BEGAN  
HERE  
50p*

BAHAMAS

This year, our friends at Dinting are operating a number of main line tours with this comparatively modern motive power.



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I M P O R T A N T   A N N O U N C E M E N T !  
M E M B E R S H I P   S U B S C R I P T I O N S  
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The AGM earlier this year determined that subscriptions for the year April 1989 to April 1990 would remain as last year with individual membership at £6.00, family at £8.00 and institutional at £12.00. If you're not already a member, please consider joining us now. If you are an existing member, please ensure your membership remains current by forwarding the appropriate fee, unless you have already done so, in which case accept our thanks. If you have joined in the last six months and paid the full, annual subscription, your membership will be extended until 1990 without further payment.

Our records show the following:

Name ..... Subscription for 1989 ~~RENEWED~~ / DUE

To join or renew, please complete and detach the following form and return it (with the appropriate fee) to:-

The Secretary, Old Locomotive Committee, Brewood Hall, Brewood, Stafford ST19 9DB.

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M E M B E R S H I P   R E N E W A L / A P P L I C A T I O N   F O R   M E M B E R S H I P

Name .....

Address .....

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Post code .....

Telephone .....

Main Interests .....

I hereby apply for membership/renewal of membership(\*) as an individual/family/institutional(\*) member, subject to the Rules of the Old Locomotive Committee.

Remittance enclosed for £6.00/£8.00/£12.00(\*)

Signed .....

Date .....

(\*) delete as applicable