

LIONSHEART

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A.G.M. MANCHESTER 2001

COVER PICTURE

OLCO President E.F. Clark and Vice President Charles Taylor-Nobbs discuss LION's framing at the morning cleaning session prior to this year's A.G.M. at Manchester Museum of Science and Technology, June 9th 2001.

Photo – J. Brandrick

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EDITORIAL

This year's A.G.M. was again held at Manchester's Museum of Science and Technology by courtesy of the Curator to whom we are most grateful. The A.G.M. held in the afternoon was well attended and we were pleased to welcome a new member, Mr. Alfred Lloyd, who made the journey from Leicester to be with us.

We were, as before, granted access to Lion for the morning cleaning session. We did not, this year, have the pleasure of meeting our friends from the Museum who were away on leave. Consequently we did not have access to our usual supply of cleaning materials, and as a result members were spared the task of applying the customary elbow grease to the Lion who did not get any cleaner, but then we did not get dirty either. Nevertheless the session was extremely enjoyable. There is always something new to discover about Lion, and there was considerable discussion about some of the welding on the frames which had been done at Crewe. It is always a pleasure to be able to discuss Lion with other members and share their wealth of experience and knowledge, especially if you are building a model of Lion. The only trouble is there is the temptation to keep changing LBSC's original design to be more like the original, a process which can get well and truly out of hand. It looks as if Lion will be resident in Manchester for some years to come pending completion of Liverpool Museum's new development.

An exciting project discussed at the A.G.M., mentioned in Peter Mountford's Report, is the proposal to produce a new booklet on Lion as the original yellow Lion booklet is no longer in production. I am sure members will watch this development with interest.

Finally, I hope that those attending Lionsmeet on August 18th 2001 will have an enjoyable day and be blessed with good weather.

With best wishes

The Editor

Chairman's Report

I had hoped that this report would incorporate most of the message that I had compiled for Christmas last year – and which didn't appear. Unfortunately however, our Editor's very recent effort has caused me to think again – and at very short notice.

I am all too well aware that I am the first non-founder member Chairman of OLCO and that as such, I have a considerable tradition to follow. That is, if I am granted further incumbency.

First, I would like to extend my thanks to the staff of this, the Museum of Science and Technology in Manchester, for allowing us access to our raison d'être – Lion. They may be under the impression that we are doing them a favour in coming all this way to clean one of their exhibits – but hey, whose kidding whom. My thanks are also due to those who were able to turn up today to perform this chore and to attend this meeting!

There have been some staff movements both here and at NMGM. Alison Taubman, our host in recent years in Manchester has now gone on to other things and we welcome in her ~~place~~ Nick Fordar. I understand that Sharon Brown, our contact in NMGM is shortly taking maternity leave. OLCO would like to tender their thanks to Alison and Sharon for their help in the past. We also extend our best wishes to all three for their futures.

I commented on Lionsmeet 2000 at Rugby in the recent issue of Lionsheart. As a further comment I was pleased to note that OLCO gained financially in that some stock was sold and new members enrolled. I gather that our hosts also profited from our visit and that is how it should be. Lionsmeet is more than a bare competition – it is a meeting of like minds, where views, news and old friends come together. That both parties benefit from the event can only be good.

I have been in fairly close contact with our Modellers' Representative over the past few months, primarily to do with arrangements for Lionsmeet 2001. I have to say that I am disappointed with the lack of a newsletter over such a long period since he wrote his report on Lionsmeet 2000, especially since he concluded that report by asking that members contact him with suggestions for venues for this year's event. I shared his frustration, when having agreed that we would wait 'a couple more weeks', still nothing appeared. In the end he made valiant efforts to go it alone, but it appeared that most summer programmes had been settled. The closure of some tracks due to Foot and Mouth disease did not help. Edward has felt it necessary to write to me explaining the situation and he has my sympathy. Lionsheart is our only means of open communication to all members and though it is only 'occasional', I feel that it should not be as occasional as of late.

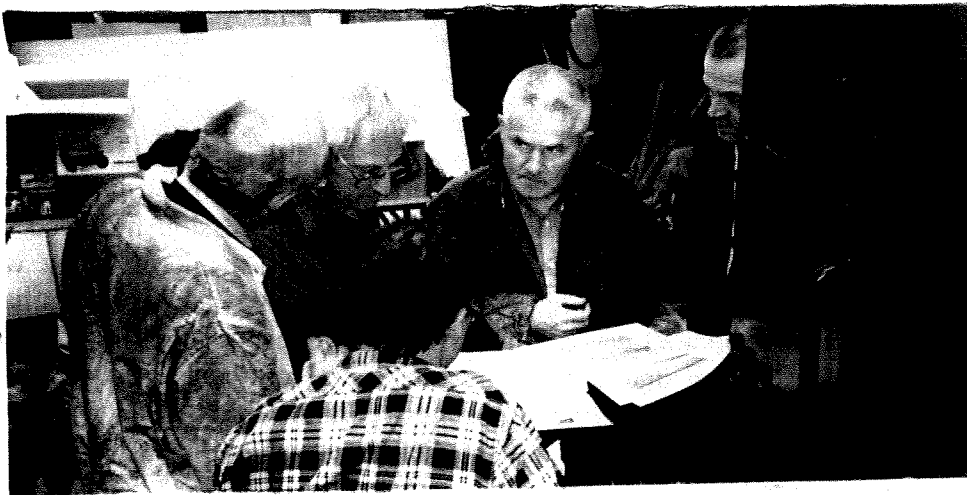
However, Edward's request was published early last month and, I am pleased to say, has elicited a response. We can now look forward to Lionsmeet 2001 at the track of Leyland SME on Saturday, August 18th. It will follow the usual format. I would like to take this

opportunity to thank those who have helped to make this event possible at such short notice.

As for publicity, I am hopeful that we will get a mention in Model Engineer's Club Diary and in Engineering in Miniature. Flyers have also been prepared for distribution to clubs within a fifty mile radius of the event. Whilst accepting the wish that OLCO be kept in the public eye, it was felt that the expenditure of sixty five pounds fifty to put a classified advertisement in ME was unnecessary, especially in view of the rather dubious quality of previous entries. I would suggest that in future, a web site may be of more value, especially if we were able to publish the newsletter on it. It would also be of immense value if our Membership application form were available to be printed off, filled in and posted with the appropriate fee by those who like an easy life. Perhaps we should make this an aim for the year.

For some years now, our immediate past Chairman, E F Clark, has been pursuing the question of the wrought iron used in Lions tyres. Those on the leading axle were replaced some time ago, but were not discarded. It is almost certain that they were produced before 1859. EF has been tirelessly encouraging those who are able to carry out metallurgical and mechanical tests to do so and to come up with the results in the form of a report. To this end he has succeeded and the report will be presented to the Newcomen Society at their headquarters in the Science Museum, London, on Wednesday, January 9th 2002. A repeat presentation to the North Western branch of the Society is being arranged and will be advertised in Lionsheart when details are available. I would strongly urge OLCO members and others of like mind to attend.

That concludes my report and I thank you for your attention.



THE OLD LOCOMOTIVE COMMITTEE

MINUTES OF THE SEVENTEENTH ANNUAL GENERAL MEETING

Held in a meeting room at the Museum of Science and Technology, Manchester, on Saturday, 9th June 2001, following an informal get-together around LION in the morning

Present:- John Hawley (Chairman)
EF Clark (President)
C Taylor-Nobbs (Vice President)
Jon Swindlehurst (Treasurer)
Peter Mountford (Secretary)
John Brandrick (LIONSHEART Editor)
Alan Bibby
Alfred LLoyd
David Neish

The Chairman opened the meeting by thanking the Museum for providing facilities to hold the AGM and members for their attendance.

Apologies:- A McKirdy
A Pullen
D Hill
E Parrott
S Parrott
J Ford
L Waldrige

Minutes of the Sixteenth Annual General Meeting

The minutes having been circulated were taken as read and approved. (Proposed E F Clark, Seconded John Brandrick)

Matters Arising

The Chairman raised the matter of the lack of stock of the yellow LION booklet and advised that NMGM would not be able to do a re-run. A discussion followed where it was felt that the preparation of a new booklet should be considered using whatever material was still relevant from the original publication as well as new data that had come to light since the original booklet was published. It was proposed that EF Clark undertake the preliminary investigation and contact members for comment and information as required. (Proposed Charles Taylor-Nobbs, Seconded John Brandrick)

I was also proposed that reasonable out-of-pocket expenses, say up to £100, could be incurred (Proposed John Hawley, Seconded Alan Bibby)

Chairman's Report

The Chairman read his report and a copy is appended to these minutes.

OLCO FINANCIAL STATEMENT for year ending 31/03/2001

<u>INCOME</u>	2001	2000
Subscriptions	95.00	173.00
Deposit acc. interest	89.31	69.85
Donations	0.00	10.00
Sales receipts	44.45	69.33
TOTAL	228.76	322.18

<u>EXPENDITURE</u>		
Advert in ME re Lionsmeet	48.47	48.47
Cost of producing Lionheart	0.00	21.24
Treasures expenses	1.90	6.00
Secretarys expenses	20.00	0.00
TOTAL	70.37	75.71

<u>NET PROFIT</u>	158.39	246.47
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<u>ASSETS AND LIABILITIES</u>		
Cash at bank: Current Acc.	278.22	197.24
Cash at bank: Deposit Acc.	3198.26	3099.78
Stock in hand	54.67	99.12
Cash in hand	2.55	14.45
	3533.70	3410.59

TREASURER'S REPORT 2001

I am pleased to report that OLCO's finances continue to do well. Membership has fallen slightly from 37 down to 34. Profit is also down this year mainly due to several members having previously opted for the 5 year subscription which they will not have to renew until 2003. Sales shows a small decrease, down from £69.33 to £44.45.

Deposit acc. interest is up from £69.85 to £89.31 due to the bank moving OLCO funds into an account which pays higher interest.

The value of "Stock in hand" is now £54.67. At last year's AGM I requested that the value of stock should be reassessed. John Hawley has now kindly done this, and the up-dated value is £307.30. I would like the meeting to discuss the best way of incorporating this new value into future balance sheets.

The overall balance shows an increase of £123.11 to £3533.70. With no large expenditure anticipated in the near future I am happy to recommend that subscriptions remain as they are for the present. Hopefully this will help to attract more new members.

Thanks

Jon Swindlehurst

THE 'ASTER' "LION" and "THUNDERBOLT"

By

Charles Taylor-Nobbs

This superb creation by Aster is far from perfect in really finicky details, but then neither was LBSC's 1953 version.

"Curly" Lawrence despised *'Inspector Meticulous and his friends and relations'* In fact many of those of you familiar with his Model Engineer articles of almost half a century ago (Twenty eight articles starting 16/04/53 Vol.108 No.2708 and ending on the 23/12/54 Vol.111 No.2795) will remember his comments in an early instalment that he was not "*giving instructions for a 'scale' model, hateful term, but a working model based on 'Lion'*".

This model resembles 'Lion' very closely, and unless you have made a very intimate study of the prototype you will certainly not notice any faults, anymore than such a lot of builders ever notice the errors that they manage to include on their 5" gauge versions.

This is a working model, sold as such, and created within the normal commercial constraints. It is not designed as a 'Museum Grade' model, otherwise the price would be horrendous, but it builds extremely well and at no time is there any hint of it being made 'down' to a price. It simply exudes quality throughout.

Much of LBSC's philosophy has been included in the Aster offering, and, it must be admitted, captures the 'look' of the Old Lady wonderfully. One has only to look at the market to notice Aster locomotives disappear from sale after a finite time, and collectors who missed out offer extravagant prices for what, by my standards, are quite mundane prototypes.

My sincere advice would be to buy one now. They are well worth the money. Not really any more expensive than a boiler for a larger scale 'live-steamer' and look marvellous on the mantelpiece, although these ones do work as well.

I purchased a kit version, so beautifully packed that I was terrified of putting a screwdriver or the nut wrench (thoughtfully provided in the kit) anywhere near it. Grasping the nettle I made a start. The instructions are well detailed and very comprehensive. Any ambiguity was settled with a simple 'phone call but I do wish that I had known about www.sidestreetbannerworks before I'd started. Marc Horovitz has done an excellent article on the web titled 'Construction Notes and photos' which are an indispensable adjunct to the official ones.

One hiccup in the build was the fact that the chimney did not screw into the smoke box with ease. Identifying the thread was less than easy. Turned out to be 9mm.X 0.5! Now try getting tools of that size and thread in the U.K. 9mm. X 0.75 easy enough, but 0.5?

The after sales service is terrific. Andrew obtained a tap and a die from Japan, sent it to me and within 10 mins. the little packet which had contained them was on it's way back to him. Job done.

Moral; do not try to force anything contained in the kit. Pick up the telephone, unlimited help will be forthcoming, even the loan of a tap and die.

The beauty of this model is that it will be quite at home on a modern layout. Not only is it available as '*Thunderbolt*' thus making all the rolling stock and locomotives used in the film readily available, from various sources, in Gauge 1. (Danny Pinnock of D&S will even make etchings of Mr. Valentines coach to run behind a 14XX, available in that scale).

The Nathaniel Wordsell coaches, built, like '*Lion*', in 1838, are available from Peter Marshall of The Wagon and Carriage Works Sawbridgeworth. and are suitable for the preserved railways of today.

The 'open third' is so reminiscent of the coaches that many of us rode in, and stewarded, at Crewe in 1987.

Those of us who were misled by the Triang '00' version of the '*Rocket*' in the 1960's together with the so called '*Rocket coaches*' might be surprised to learn that those coaches by Triang were not contemporary with '*Rocket*' at all, but built 13 years later.

In fact a train resembling the famous Ackermann prints published in T. T. Bury's "*Coloured Views on the Liverpool and Manchester Railway 1831*" could be assembled quite easily.

Not exactly of course, but very similar, the period of the models being seven years later than the book.

The exquisite nature of this Kit/Model, those Coaches, the Old Originals kits by John Dale of two 1847 LNWR locos and coaches has led me to abandon the idea '0' gauge and really favour of G '1'.

Present day availability of stock built prior to 1860 is very much more to my taste, and in reality, not really more expensive than Gauge '0', where little, if anything is available for that period.

Aster are to be congratulated both on their choice of prototype and the way the model has been created.

Do not miss your own opportunity, it really is 'a pearl of great price'

Please note Mark Horovitz's Web address is: www.sidestreetbannerworks.com.

For Lion kit please contact:

Aster Hobbies Ltd
P.O. Box 61
Abbots Langley
Herts WD5 0ZJ
Tel. 01923 269662
Fax. 01923 265017
www.asterhobbies.co.uk.



Charles Taylor-Nobbs and Jon Swindlehurst inspect the Aster Gauge 1 Lion Kit

The Falkirk Boat Lift

John Hawley

A small party of members went to visit the Anderton Boat Lift near Northwich, Cheshire, after the A.G.M. but unfortunately arrived after the site was closed. John has sent in an interesting Article about a new boat lift to be installed near Falkirk in Scotland.

Long-term turn

Bearings offer 120-year life

Slewing bearings are usually used about a vertical axis, but SKF is using them on the horizontal axis of the Falkirk Wheel

Described as a giant rotating boat lift and the only structure of its kind in the world, the Falkirk Wheel is the centrepiece of the Millennium Link, a £78million project led by British Waterways, which reopens and reconnects the Forth and Clyde Canal, and the Union Canal between Glasgow and Edinburgh. The wheel measures 35m in diameter, with an axle length of 28m, and it will transfer boats between the two canals over a vertical distance equivalent to the height of eight double-decker buses.

Up until the 1930s, the two canals were linked by a series of 11 locks. However, along with the demise of the canals, the locks fell into disrepair, were in-filled, and are now unusable. As a result, the idea of connecting the canals via a rotating boat lift was put forward and was originally conceived as a giant Ferris wheel with suspended gondolas. For this design, SKF proposed large, double-row, spherical roller bearings and specially designed bearing housings to support the wheel. The final design has, however, evolved into the radical concept currently under construction.

The ends of the structure take the shape of a Celtic-inspired, double headed axe, in which two axe-shaped arms rotate in a continuous circle, 180° at a time. It will simultaneously raise and lower two 22m-long caissons, which each hold a payload of 300 tonnes – comprised of water and up to four boats – and it uses a series of synchronous gears to keep the caissons level.

Butterley Engineering of Ripley, Derbyshire, won the contract to build the wheel, and its engineering design consultant, Bennett Associates of Rotherham, Yorkshire, invited SKF to provide the bearing solution. To support the wheel, SKF developed a system that uses a pair of purpose-designed, 4m diameter three-row slewing bear-

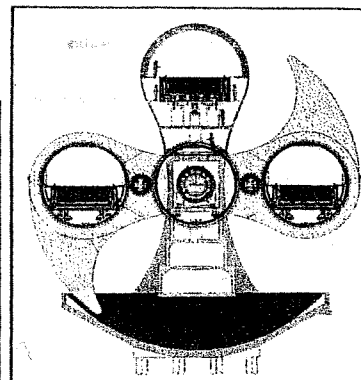
ings, one positioned at either end of the wheel, with outer rings bolted to the support structure and inner rings bolted to the arms. The inner ring of one of the bearings is equipped with gear teeth to transmit the drive to the wheel.

Unusual arrangement

The use of the slewing bearings was an unusual solution, as these bearings are normally used in applications with heavy axial loads, such as those encountered in the rotational movement of large cranes. However, SKF specially designed these slewing bearings to be positioned on a horizontal axis and to cope with the specified combination of radial and axial loads. When the wheel is fully loaded, it weighs 1800 tonnes, which results in a radial load of 9095kN per bearing. Each slewing bearing has three rows of cylindrical rollers, one for the radial load and two with smaller rollers to handle the axial loads.

The wheel is rotated by ten hydraulically-driven gearboxes, via the geared slewing bearing. It turns at a rate of around 0.125rpm, which sees it lift and lower boats at an average rate of 4m per minute. With consideration given to the time taken for loading boats, the wheel is expected to complete a half turn once in about every 15 minutes.

In operation, the wheel will be maintained close to perfect balance. With the caisson and the canal watertight doors open for loading and unloading, the water levels in the caissons will depend on the level in the canals to which they are then open. Any vessel that enters a caisson will automatically displace its own weight of water back into the canal and therefore has no



Got the gear: (Above) the caissons are geared to the central axle to ensure that they remain level at all times. (Left) This artist's impression shows how the Falkirk Wheel might look when it is finished

net effect. When the caisson and canal watertight doors are closed, a pump system will equalise the water levels in the two caissons to establish near-perfect balance.

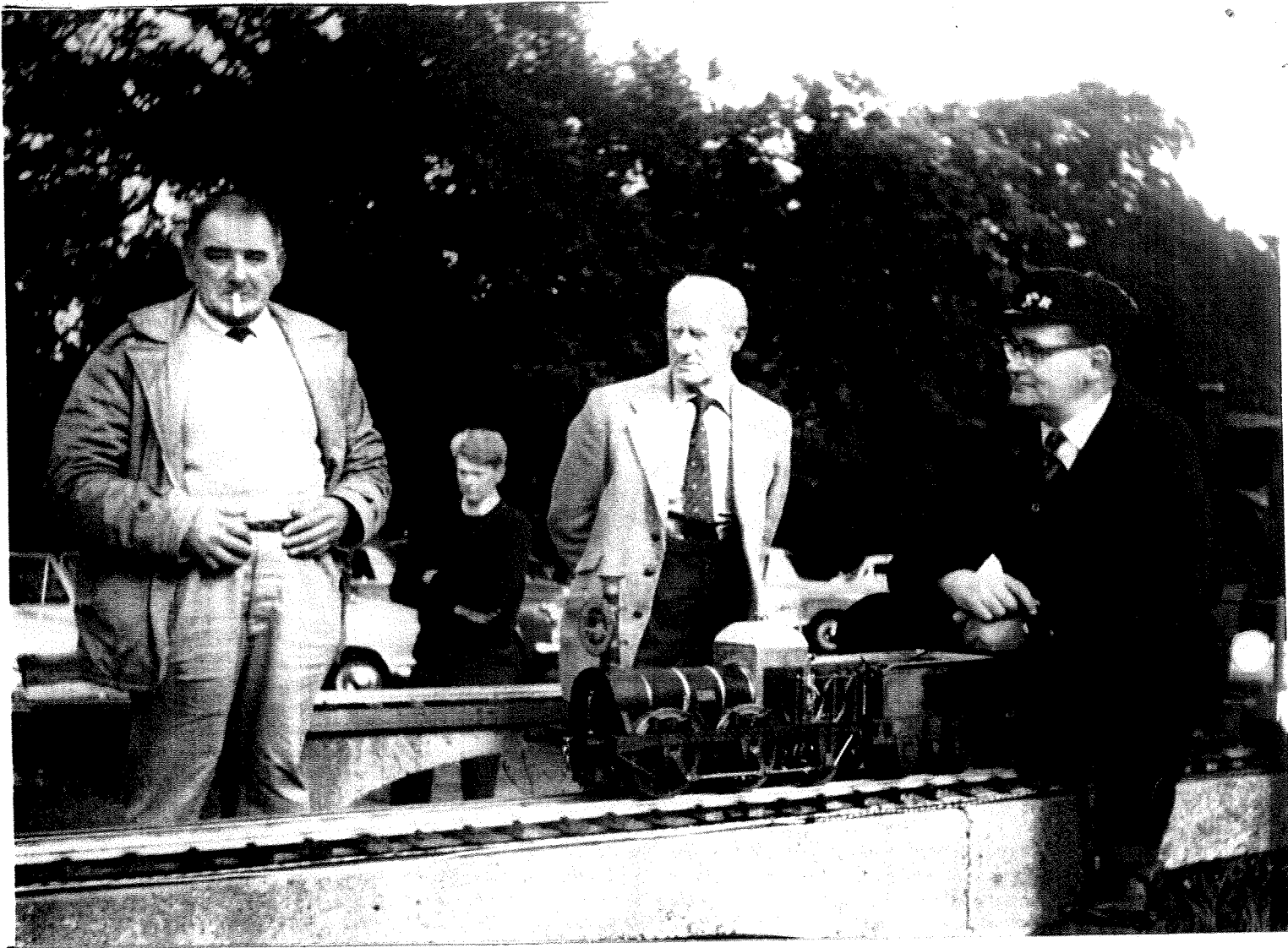
The wheel drive system has, of course, been designed to handle a degree of imbalance due to differing water levels in the caissons; however, even allowing for this potential out of balance, the very low friction of the supporting bearings means that a rated torque of only 2972 kNm is required to rotate the wheel.

Although the bearings come with their own integral seals and have been designed to have a life expectancy of 120 years, SKF is also supplying extra CR seals of 4m and 2.5m diameters. This type of seal is specifically designed to withstand the conditions found in heavy-duty applications and, in this instance, will virtually guarantee the prevention of any ingress of water.

SKF has also provided bearings, in the form of cross-roller bearings to support the idler gears, which will keep the caissons level at all times. The caissons themselves will run on a wheel arrangement on circular rails, with each wheel mounted on two sealed spherical roller bearings.

For more details on the **slewing bearings** from SKF, please use the free information card service

More information: Write in 265 on the card



From the Editors Archives

Official opening of the Birmingham SME track at Illshaw Heath 1963. This photograph may be of interest to OLCO members. It shows a 5" gauge Lion built by its driver, Bill Lowe (appropriately Löwe is German for Lion). Bill was for some years a very popular President of the Birmingham SME and guided the Society through the difficult years following the loss of the Campbell Green site and the building of the new track at Illshaw Heath. Bill's Lion was an excellent performer and a real flyer. It held the lap record at Illshaw Heath and the sight of Lion at speed with its coupling rods just an invisible blur and Bill leaning into the curves was unforgettable. Hardly surprising as Bill was a keen motorcyclist and used to ride his vintage Velocette every year to the Manx TT races. Lion is pictured here just about to haul the opening special train to mark the opening of the SME's track at Illshaw Heath which I think was in 1963. On the left of the picture is the Editors late father who was dragged off to the cinema many years ago by his 8 year old son to see the Titfield Thunderbolt film at the local cinema. His presence was essential because the other film being shown was an "A" certificate. However, father became a devotee of Lion as a result.

In the centre of the photograph is Ernie Guy, for many years the Secretary of the BSME. Ernie was a retired engine driver who finished his driving days in Saltley's Elite Carlisle Link. He drove the Royal Train on a number of occasions and your Editor as a teenager used to sit for hours listening to his tales of life on the footplate.

The young man in the background of the photograph is a relative of Mr. H.W. Burman whose family owned the well known Midlands engineering firm of Burman Gears. However, Mr. Burman will be better known to railway enthusiasts for his lovely photographs of Cambrian and Great Western locomotives in pre-grouping days. Mr. Burman's family very kindly made the land available at Illshaw Heath for the Birmingham SME and Mr. Burman took a great interest in the development of the site and used to turn up in a lovely 1930's Lea-Francis open tourer.

Finally, just visible behind Bill Lowe is the front of an Aveling and Porter steam roller which was loaned to the Society by the late Mr. Colin Gilbert, an Honorary Member of the Society who was a wealthy Stockbroker. He lived nearby at Lapworth Hall, whose grounds contained a miniature railway looked after by Emie Guy in his retirement. Emie was also in charge of the steam roller which was used to make the drive at Illshaw Heath. Your Editor had many happy hours driving the roller anxiously watched by his father in case any of the members cars got accidentally included in the hardcore.

This photograph was taken almost 40 years ago now. Where did all those years go!

British Film Institute Stills – The Titfield Thunderbolt

Members may be interested to know that the British Film Institute which hold archives related to British films also has a stills section which can supply prints to the general public. Your Editor recently obtained an excellent 16 x 20 print of the picture illustrated here which shows Thunderbolt being retrieved from the Museum as a substitute for the wrecked 1401. The Institute has other stills from the film. Unfortunately they are unable to provide a catalogue so it is necessary to enquire from them if they have what you are looking for. A 16 x 20 print costs £25.00 plus VAT plus postage. The address is:

Kate Stayworth - Researcher
The British Film Institute (Stills Department)
21 Stephen Street
London W1P 2LN

Tel. 0171 255 1444

WIT ILN
020 7957 4797
WIT Still Boxes & Designs
(Pencil changes made after LM 2005)



Lion in Model Engineer

About once a year we publish a list of the articles detailing the construction of 3 1/2" and 5" gauge Lions which were published in Model Engineer way back in 1953-4. Written by the immortal LBSC, the articles contain the drawings, the procedure and of course the various wrinkles which collectively, formed the 'words and music' for which he was famous. A word of warning, though. He never built the engine, so there were a few mistakes which those who followed his instructions found to their cost. We therefore include in the list the letters and articles sent in by builders and which it would be wise to read first.

We are unable to supply copies of these articles for copyright reasons. However, back numbers of Model Engineer and many other publications may be obtained from TEE Publishing, Tel: 01926 614101.

Date	Vol/Issue	Pages	Title
16/04/53	108/2708	469	The Titfield Thunderbolt (Just a brief Introduction)
11/06/53	" /2716	698-701	1. Frames
02/07/53	109/2719	2-5, 8	2. Motion Plate - Wheels
23/07/53	" /2722	95-99	3. Cranks - Rods - Springs
13/08/53	" /2725	186-190	4. Cylinders
20/08/53	" /2726	224-226, 232	5. Slide Valves
10/09/53	" /2729	311-315	6. Cross Heads - Connecting Rods
01/10/53	" /2732	403-405, 409	7. Feed Pumps
22/10/53	" /2735	492-495	8. eccentrics
12/11/53	" /2738	578-582	9. Gab Gear
03/12/53	" /2741	656-659, 662	10. Reversing Shaft - Links
17/12/53	" /2743	726	-- Letter from M H Cox
24/12/53	" /2744	758-762	11. Gear Lever - Lubricator
14/01/54	110/2747	28-31, 34	12. Boiler
04/02/54	" /2750	124-127, 131	13. Boiler, 5" Gauge
11/02/54	" /2751	160	-- Letter from R F J Pounds
25/02/54	" /2753	214-217	14. Boiler Tubes
18/03/54	" /2756	291-293, 296	15. Dome - 3 1/2" Lubricator
08/04/54	" /2759	381-383, 392	16. Blower - Boiler Stays
29/04/54	" /2762	470-472, 474	17. Smokebox
20/05/54	" /2765	551-553	18. Regulator - Superheater
10/06/54	" /2768	653-656	19. 5" Gauge Regulator
01/07/54	111/2771	16-18, 20	20. Safety Valves
22/07/54	" /2774	98-100	21. Boiler Fittings
12/08/54	" /2777	198-200, 203	22. Boiler Details
02/09/54	" /2780	274-276	23. The Plumbing Job
23/09/54	" /2783	358-360	24. Injector - Handpump - Clack
14/10/54	" /2786	450-452	25. Finishing Touches
04/11/54	" /2789	534-536, 544	26. Details of the Tender
25/11/54	" /2792	630-633	27. Horns - Axle Boxes - 5" Gauge Tender
23/12/54	" /2796	744-747	28. Tender Brake Gear
30/12/54	" /2797	758-759	-- L B Parkin's "Lion"
15/05/58	118/2973	638-641	"A Lion is Born" by F Few
02/10/70	136/3402	948-951, 978	"Model Lion" by L A Saxby
21/12/73	139/3479	1222-1224	"Modifications" by L A Saxby
06/07/79	145/3612	784-787	"Lubricator" by D A Neish
01/04/83	150/3702	430	Letter from N Smith
20/05/83	" /3705	620-621	Letter from C E Taylor-Nobbs
17/06/83	" /3707	714-718	"Modifications" by K C Miller
01/07/83	151/3708	48	Letter from R F Austin
05/08/83	" /3710	137-139	"Historical Notes" by C E Taylor-Nobbs
21/10/83	" /3715	476	Letter from M Smithers
17/02/84	152/3723	190-193	"Lion's Crown" by K C Miller
03/08/84	153/3734	130-132	"Boiler Origins" by C E Taylor-Nobbs
19/04/85	154/3751	439-442	"Tender Origins" by C E Taylor-Nobbs
02/08/85	155/3758	150-151	Scale Boiler Lagging - Product Review
03/06/88	160/3826	657-660	"A Century of Progress" by C E Taylor-Nobbs

Tail Lamp

It remains for me to thank those who have contributed to this issue of OLCO. Any members having contributions for the next issue please contact me at:

"Hawthorns"
45 Bury New Road
Ramsbottom
Nr. Bury
Lancashire
BL0 0AR

Tel. 01706 822473

Finally, my sincere thanks are due to my long suffering Secretary, Mrs. Sue Spencer, who having mastered the bizarre medical terminology of Ear, Nose and Throat surgery, is now confronted with the challenge not only of Railway and Engineering terminology, but also having to cope with my frantic deadlines.

John Branding



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