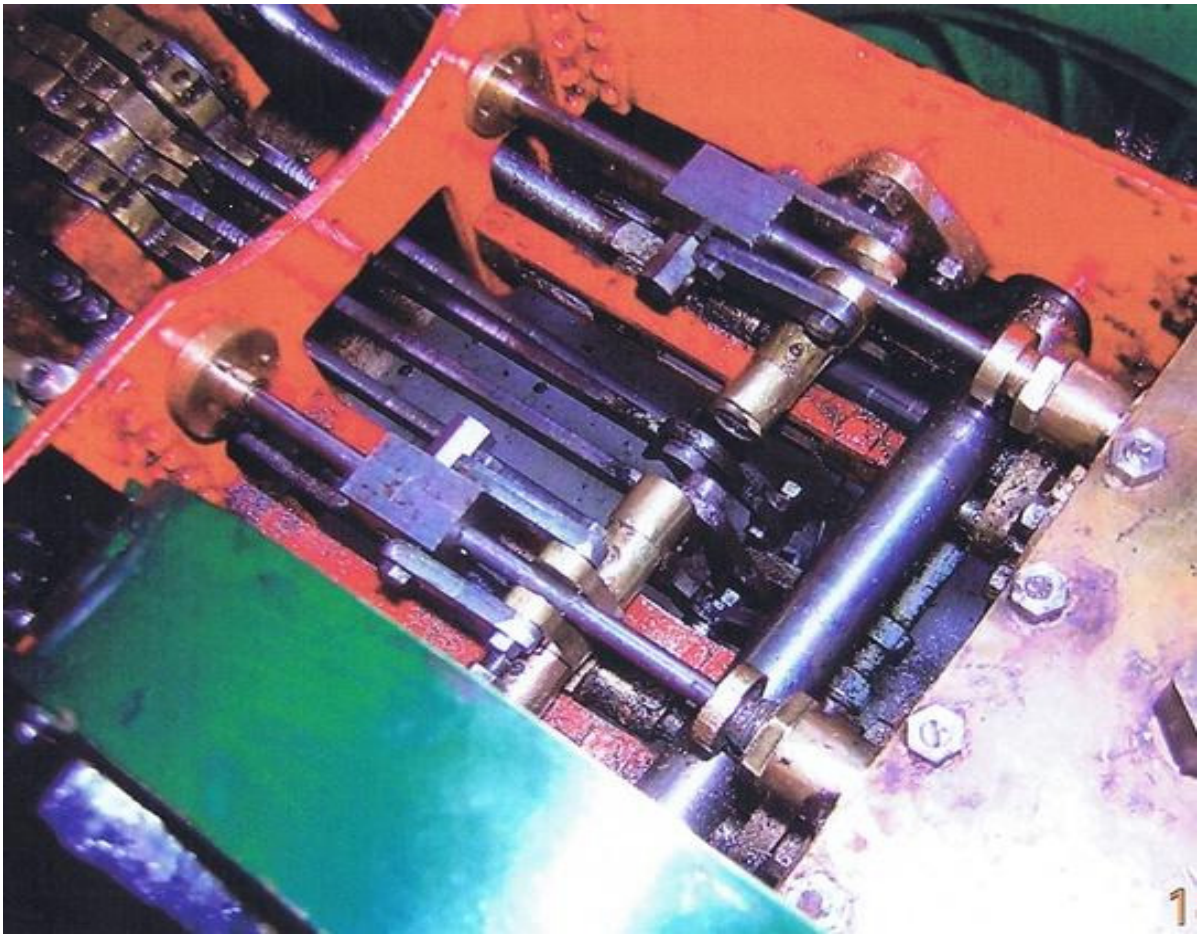
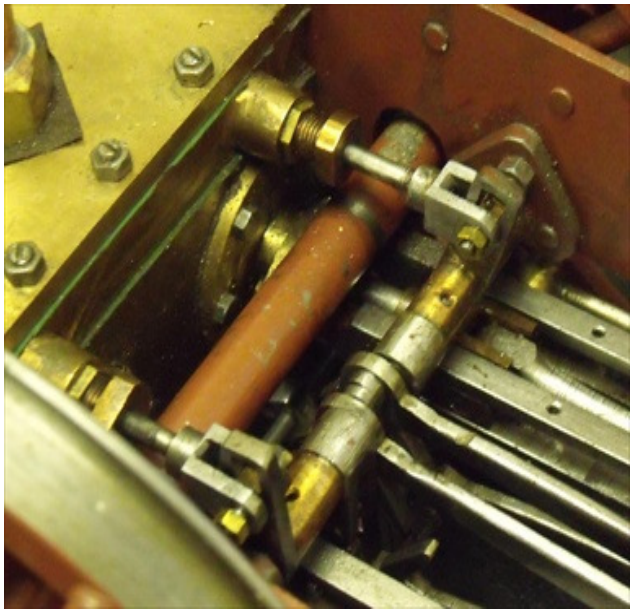
THE OCCASIONAL NEWSLETTER OF THE OLD LOCOMOTIVE COMMITTEE

LIONSHEART

Number 69 January 2011



A tale of two Valve Gears (1). Is this the way forward with LBSC's troublesome design? Photo – Tony Parsons



A tale of two Valve Gears (2). Photo - Adrian Banks
Or this, the L A Saxby early mods to LBSC's original 'words and music'? Has it now been bettered by the above? Read all about it within.

Cover Story – Lion's Valve Gear (1) by John Hawley

For most of my life I've been associated in one way or another with engineering. However, I've never understood steam engine valve events and their motion. At my technical school in Exeter, the metalwork master had two or three wooden models of valve gear, though of which design I have no idea. We boys would turn the handles and watch the various sliding motions, but the mechanisms were never explained to us. Oh, how I wish I'd taken more notice of them when I had the chance. And now that I'm a big boy, I've never designed a model, never owned a model, never repaired a model and only driven models through the kindness of David Neish and John Dalton at Lionsmeets.

I've spent a lot of time underneath Big Lion measuring gabs, eccentrics, rods and levers, drawn them, but not yet done an assembly drawing showing travel, lap, lead and so on. I built a demonstration model for the Bristol ME Exhibition 2010 at Thornbury, but had no time to study it and to understand it. Now that model is in the garage and it's cold outside, so wild horses would not drag me out there.

Thus, I've not understood much of the moans and groans associated with LBSC's valve gear for Lion. I knew there was a problem and that there had been letters offering solutions, but I never bothered to 'get my head around' it all.

Imagine my trepidation then, when John Brandrick contacted me in July and said that he was forwarding copy on valve gear for Lionsheart. How could I, as Editor, publish something beyond my understanding? As luck would have it, the contributions arrived too late for inclusion in that July issue, so in the meantime I've had time to study them. However, they turned out to be just photographs rather than technical articles, so I was none the wiser.

Now, in preparing for this issue, I've pulled out the photos again and had a look at them. I've also dragged out the LBSC articles and subsequent correspondence. I've come to understand more clearly what the problems were and how they were surmounted by people who took the time and trouble to work out solutions.

Firstly, I now find there was nothing wrong with the valves themselves, only the means by which they were driven. (The following references to Model Engineer quote only those pages which deal with the 5" gauge locos. The 3 ½" design was very similar, but was sometimes dealt with in a separate article. For a full list of the Lion constructional articles and correspondence in ME, please see page 15).

As I see it, there were three major drawbacks to LBSC's gab gear design (ME vol 109, pg 578): **a**) the shape of the gab forks; **b**) the means by which the reciprocating motion of the gabs was transferred to the valve spindle and **c**) the support afforded to said spindle.

The shape and treatment of the gab forks was dealt with adequately by L A Saxby (Vol 139, pg 1222). He also reduced the problems noted in b) above. Then along came K C Miller, (Vol 150, pg 714). He generally agreed with LAS, but also saw a major problem in the support of the valve spindle in that it had a very short length of guide, especially when taking into account the lateral forces imposed upon it by the die block sliding in the fork of the rocking lever (Charles Taylor-Nobbs's famous 'Wagging Banana', on Big Lion). Certainly, that area looks distinctly crude (Vol 109, pg 224). It looks as though the spindle slides both in the steam chest and in the threaded stuffing gland. Since it is impossible to rely on a screw thread for accuracy of location, the spindle almost certainly jams between two non-aligned bores, or it loses support due to one or the other of these bores being increased in size. KCM modified the steam chest and made a new, longer stuffing gland along with other improvements. Neither of the solutions to b) and c) were sound engineering, but I suppose they worked. Builders weren't to know that LBSC had departed drastically from the 1838(?) design that we find in Lion today, except via the very slight clue he left in Vol 109, pg 492, half way down the text at the right of the page, where he refers to a 'connecting-link'.

Our main cover picture shows Tony Parsons' 5" Lion valve gear as viewed from above the forward right corner, with smokebox and boiler removed.. The stuffing gland (half way up near the right side of the picture) has a locking nut as advised by LAS. The valve spindle passes through the forked end of the rocking lever, a master stroke I think, since it is now free to project back to a bearing mounted on the motion plate Thus it is provided with widely spaced bearings. Half way along, the spindle sports a rectangular block secured by a clamping screw with a long hexagonal head. From the block two parallel links (C T-N's 'Dogbone') run forward to the top of the rocking lever. This is the icing on the cake. It is very similar in principle to Big Lion, except that her rearmost spindle support is located between the stuffing gland and the top of the rocking lever. (See sketch, Vol 151, pg 137, part of an interesting article on Lion by Charles Taylor-Nobbs). Even the provision of the 'dogbone' links doesn't entirely do away with lateral forces on the spindle, but, since it is a pretty stiff item and is supported by those widely spaced bearings, I think it is the best solution to the problems in this area.

I imagine that Tony has followed LAS in the design of the gab forks, but he modestly admits that the idea of supporting the spindle as he has was not his, but was taken from another member of the Coventry club who had acquired a Lion from a deceased member. It would be nice to know who the originator was, Tony, if only so that we can give him his proper due. Tony is not an engineer and this is his first shot at building a model locomotive. He says it performs well under steam or compressed air, but he has had some problems under prolonged running conditions. The gear is easier to adjust and dismantle than the LBSC design. Well done Tony and I hope you are soon able to overcome the problems so that we see you at a future Lionsmeet.

Well, what do you think, you Lion aficionados. Is it a good idea? Will it work? Would you fit this to your Lion? Do please write in and let me know.

See back page for contact details

By way of a simple survey, how many of you have:

a) LBSC unmodified;
b) The Saxby modifications;
c) The Miller modifications;
d) A design similar to that submitted by Tony Parsons;
e) Something else?

and when did you fit it? Do you run regularly? If so, are you happy with what you've got? Questions, questions!

In retrospect, it's a great pity that LBSC departed from the very simple and effective design on Big Lion. I would venture that, bearing in mind the many Lions which run successfully in 'everyday' use, they perform thus due to diligence and skill on the part of their builders, rather than due to the design which LBSC trotted out. There, I've dared to criticise the Great Man, but still I breathe!

For those of you who have broadband access to the Internet, type 'Harrye's Lion' into Google. That will show you his valve gear working on air and, because Harrye's Lion is pretty true to the original, even down to the 'Wagging Banana', what you see is what is in Big Lion.

Another Idea – Lion's Valve Gear (2) by John Hawley

It is said that, with buses, you wait ages for one and then three come along at once. Well, with valve gear it's a little more complex. Nevertheless, I was very pleased to receive details of two from readers. We've seen the one from Tony Parsons above, but now we look at that belonging to Adrian Banks.

Adrian's is also in 5". The lower photo on page 1 shows his valve operating gear, from an almost diametrically opposite viewpoint to that of Tony Parsons. We see the mechanism from above left, slightly behind the motion plate. It looks as though the L A Saxby modification has been duly noted and acted upon. It may be just possible to see the left lower gab (reverse) jaw at bottom centre. Again, it would appear that it has been 'Saxbied'. I hope Adrian will tell us more in due course, once he's had it running for a while. Is the rest of the loco a la 'words and music' though, Adrian?

Below we see the loco as displayed at the 2010 Alexandra Palace Exhibition. Photo – Adrian Banks

One thing puzzles me though: LBSCs 5" gauge steam chest cover is clearly shown in Vol 109, pg 224 as being secured by 4BA slotted cheese head screws. Why then, on both Tony and Adrian's models on page 1, do the covers appear to be secured with slotted grub screws with hexagon nuts? Answers, gentlemen, please!

The Editor's Bit by John Hawley

I feel that I should apologise for not getting this issue to you before Christmas, so that I could at least send you the compliments of the season. Hey ho – things to do, and so it had to take a back seat. Anyway, if it's not too late, may I take this opportunity to say I hope you ***had*** a good Christmas and New Year. Let's look forward and hope that lots of you are able to ferret out your unfinished models and have a bash at getting them finished – in time for **Lionsmeet**, of course, on **30th July at Chelmsford**. I will send out full details in a future issue.

I feared that I'd have nothing to write this time, not only in this column, but the complete newsletter. However, items from Tony Parsons and Adrian Banks, via John Brandrick, have helped no end in filling this issue. John's also sent in his Chairman's Report, along with useful dates and details of forthcoming attractions. In addition, and I don't know where she finds the time, Jan Ford has provided a full report on the 2010 Lionsmeet at Kinver, as well as a goodly source of photos. I am also most grateful to Alan Bibby and Andrew Neish for emailing me their photos as well. I've used photos from all three sources, besides some of my own. Last, but not least, Jon Swindlehurst has supplied photos and notes for our 'Models Under Construction' slot. Thank you one and all.

This issue has been particularly difficult and long in gestation. I'm not used to putting in lots of photos and, for the first time, I've played around with 'Columns'. The latter, especially, is like fighting with an eel in a bucket of wallpaper paste (that's the polite version). It didn't help that I overfiled almost a day's typing, with its supporting research. Wah! Anyway, it's all done now, but

I've just bought a CD of Select Desktop Publishing software. Too late to do this issue with it, but is anyone familiar with it and is it any good? Also, (nothing to do with OLCO), does anyone have experience of Family Historian 4?

I'm always glad to receive your notes, comments, articles, etc. In descending order of preference they should be: **a**) typed on a computer and emailed; **b**) typed on a computer then printed and sent by post, **c**) typed on a typewriter and sent by post, or **d**), if you want to find out how desperate I am, try a good old fashioned handwritten letter. Just run a spell checker over your computer work first though and always read through what you're sending, even if hand written, to avoid subsequent mis-understandings.

As for photos, the advantage of sending them by email is overwhelming – I can put them straight into the document, scale them, crop them and all sorts, getting a 'first generation' print. If you send a photo by post, then I have to scan it (losing quality) and possibly send it back, which I cannot guarantee. Photos which have been printed onto plain paper and sent to me don't really work, especially via the scanning process.

I am not keen to receive contributions via floppy or CD.

Once upon a time, Lionsheart was produced almost entirely by hand. We just printed the text onto sheets of paper, leaving blanks into which we stuck 6" x 4" photos. We then put the whole lot through a photocopier. So much easier!

Right. That's got that out of the way. I hope this issue has not damaged your doormat or computer in being too large. Lionsmeet is the main reason for that, since I was offered so many excellent photos. I hope I've given a fairly balanced display, and put the correct acknowledgements, but do let me know what you think, or I may make the same mistakes next time!

See back page for contact details

Nigel Taylor-Nobbs

It is with great sadness that I have to report the passing of Nigel, son of one of our founder members, Charles. Charles has written extensively in Model Engineer and in Lionsheart on all sorts of aspects of Lion. Nigel did not follow in Charles's footsteps, but nevertheless, he took some interest in Lion, as witness the load of photographs he took (and sent me a set) of Lion during her 'Rolling Road' test at the premises of Dorothea Restorations, Whaley Bridge, on 6th January 1995.

Nigel suffered a cardiac arrest on 1st December in Doha, Qatar, where he was working. He had moved there from Hamburg just four weeks previously. He was only 52 years of age. The arrangements for repatriation, the funeral service on 17th December in Chesterfield and other matters fell to his younger brother, Keith, due to Charles' ill health.

We extend our heartfelt sympathies to Charles, Joan, Keith, Simon and their families for this tragic loss.

Lion on the 'Rolling Road'

Just a taste of Nigel's photos of Lion . . .

Photo 1 – Nigel Taylor-Nobbs

First, Lion's coupled wheels were placed on rollers, (Compare with Harrye's 'Rolling Road' under Lion in the Internet film) . . . .

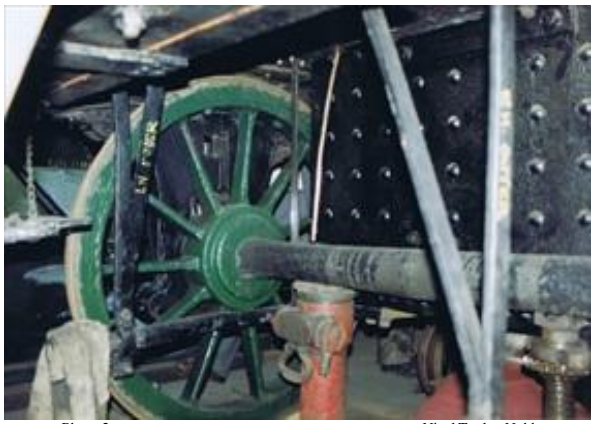


Photo 2 – Nigel Taylor-Nobbs

. . . the rear wheels were jacked up . . . . ,

(The triangular frames support the feed water pipes from the tender).

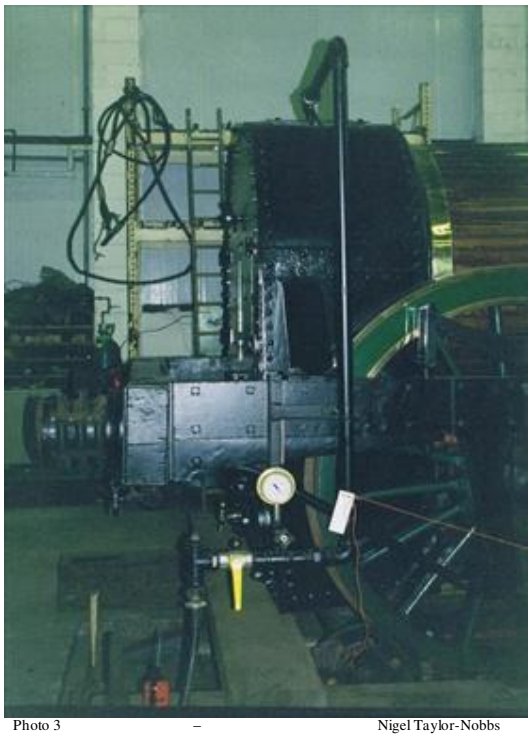


Photo 3 – Nigel Taylor-Nobbs

. . . . then she was supplied with compressed air and 'driven', at slow speed, the yellow 'T' shaped valve to the right of the pressure gauge acting as regulator!

The idea of all this was to get the bearings, especially those in the crank axle, settled in after a fairly heavy strip down.

EF Clark worked out the procedure for this 'bedding-in' process. It went well, but Lion has not turned a wheel since.

Lionsmeet 2010 Report **by Jan Ford**

Intense activity around the Steaming Bays at the Kinver track **Photo – Jan Ford**

The 2010 'Lionsmeet' was held on Saturday, 31st July at the Kinver and West Midlands Society of Model Engineer's track at Kinver.

I understand that the track at Kinver dates back over 40 years and the Society itself, through various changes and amalgamations, traces its origins back over 100 years!

The elevated 3.5-inch and 5-inch gauge track gives a continuous run of around 2,200 feet. It's in the form of a 'folded dumb-bell' One end of the dumb bell encircles a bowling green. The bowling green wasn't in use that day but a footbridge is provided so as to give access to the bowling green when the railway is running. If the railway isn't running, there's a moveable bridge giving ground level access to the bowling green at the expense of interrupting the railway. The other end of the dumb-bell encircles a circle of 7.25-in gauge track.

The 7.25-in gauge track makes a triangular connection to a single line branch ending in a turntable opposite the 3.5-inch and 5-inch gauge steaming bays. There is an 'inspection pit' for 7.25-inch gauge with a moveable traverser.

This was of more than academic interest, because John Dalton of Chelmsford club attended with his 7.25-in gauge Lion which was in steam and giving demonstrations for most of the day. John had brought an open wagon and GWR 'Toad' brake van to run with his locomotive. These were fibreglass-bodied and nicely-detailed. The open wagon had a seat to act as a driving trolley.

But lifting the seat revealed the 'works' of a functional vacuum brake system. The wagon body had a sealed lead-acid battery to power a proprietary vacuum pump. This, with the ancillary components, controlled the brake on the wagon and (through a flexible vacuum hose connection) any other vacuum-fitted vehicles in the train. The brake was controlled by a small control panel fitted to the end of the wagon.

In addition, Harrye Frowen was there with his magnificent 7.25-in gauge 'Lion'. He steamed his locomotive but, unfortunately, a mechanical failure prevented him from running. Members will be aware that Harrye's model has been based on John Hawley's series of drawings of the prototype so it is dimensionally more accurate than most 'Lion' models. But there are places where, to get enough strength into parts under load, some liberties have to be taken and this process has not quite been completed. We were all disappointed not to have the opportunity of seeing Harrye's 'Lion' running.

John Brandrick, the Chairman had sent apologies but Alan Bibby was on hand, with Peter Dawson, Chairman of the host club, to ensure that matters ran smoothly. Since the last 'Lionsmeet', OLCO stalwart Bill Stubbs has passed away and Alan made a tribute to this "Gentleman of the Tracks". This year, there were four competitors on three 'Lion' models. By convention, the previous year's winner (Jon Swindlehurst) runs first. Young Sophie from the host club then drew names to determine the order of the remaining contestants (David Neish, Andrew Neish, John Mills).

Below: Kinver Dynamometer Car with the seat removed to reveal the 'works'

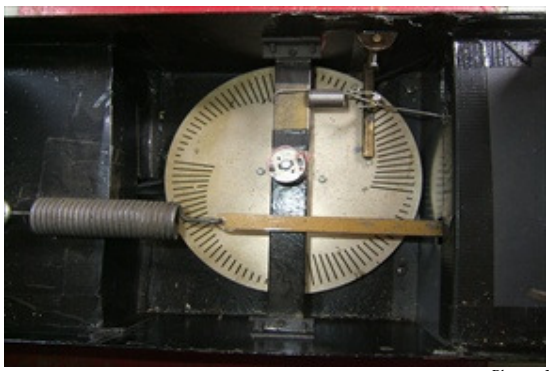


Photo – Jan Ford

This year, it had been decided to use the host club's Dynamometer Car. The design features an electronic counter accumulating pulses from a sensor detecting slots in a photo-etched disk. The disk is rotated by the road wheels but, when there is no drawbar pull, the sensor is held clear of the slots and no pulses are seen. At minimum drawbar pull, the sensor arm is pivoted so as to 'see' the longest slots, counting just four pulses per disc revolution. As drawbar pull increases, the sensor detects additional (shorter) slots and the number of pulses per disc revolution increases. The total number of pulses is thus proportional to distance run and drawbar pull applied - that is, work done. However, there was some doubt about converting the 'number of pulses' into a credible 'foot pounds' figure. Alan Bibby determined that, for this contest, the prize would be awarded on the unconverted 'number of pulses' figure. Once again, Jan was 'volunteered' as Observer, riding the Dynamometer Car which was attached to a small driving trolley for the competitor, with the competing 'Lion' at the front. Each competitor was allowed an untimed lap to determine what load he wished to carry behind the dynamometer car, followed by ten minutes to try to produce the maximum work done. Competitors were subject to the 8 m.p.h. Line Speed imposed by the host club so a good run could expect to complete about three laps during the ten minutes of competition running.

Jon Swindlehurst ran first. He elected to attach one bogie coach with three passengers. He made a good start and ran hard until his third lap when he suffered a problem which slowed him somewhat.

David Neish ran second, attaching two coaches with two passengers. Unfortunately, a rain shower made starting on the wet aluminium rail very difficult. The time lost getting away meant that, even with consistent running to follow, he could not equal Jon's performance.

Andrew Neish ran next, with two coaches and three passengers. Conditions at the railhead were much improved and Andrew was able to run hard.

Finally, John Mills ran, with the same load as Jon Swindlehurst. He had a very successful run, producing almost exactly the same 'pulse count' figure as Jon. The performances are summarised below:-

Name	Pulse count	Position
Jon Swindlehurst	21267	2
David Neish	13436	4
Andrew Neish	23871	1
John Mills	21167	3

Everybody had put up a good performance but it was Andrew Neish who received the cup from Peter Dawson, Chairman of the host club. Readers wishing to see the rest of Jan's Lionsmeet pictures who can access the Internet should click here if viewing this newsletter

Readers wishing to see the rest of Jan's Lionsmeet pictures and who have internet access should enter the following into their address bar: “http://janford.fpic.co.uk/c1878143_1.html”, without the inverted commas, of course.

Models Under Construction

Photo - Jon Swindlehurst

Jon Swindlehurst’s smokebox is well under way. Here’s yet another example of a 7 ¼” Lion under construction, so it may well be that, ere long, we’ll be running dual gauge Lionsmeets again, for 5” and 7 ¼” Lions, a welcome development, since it is quite a while since we saw dual 3½” and 5” events.

Jon Swindlehurst writes:

“The copper chimney top took about 20 annealings this time to get it to flare out from 38mm to 85mm (only 18swg...would have preferred 16 swg but beggars cannot be choosers).

Pressed onto a former in the vice as per the article I did in 'Lionsheart' about (*)1996. If you were short of copy you could repeat the article for the plethora of new members OLCO now has. I wasn't brave enough to try spinning it. (**)You could ask John Dalton to do an article on how he spun his so that people could compare the two methods.”

(*) Readers wishing to read Jon’s original article, published in LH 40, July 1996, pg 13, may obtain copies from the Editor, whose details appear on the back page. If enough ask, I may do a re-print in a future issue.

(**) Well, John, how about an article on the subject? – Ed)

Photo - Jon Swindlehurst

The view at left shows a front view of Jon’s smokebox. Here we see the inside from the rear, a rare view, since the boiler would normally be inserted here. Readers who receive this newsletter by email may be able to zoom closely to see the excellent workmanship which we’ve come to expect from Jon. The valve spindle guides are fitted and no, I haven’t counted the rivets!

Keep ‘em coming, chaps!

More Minutes of the Old Locomotive Committee 25th Annual General Meeting

Chairman's Report by John Brandrick

"Welcome to OLCO AGM and thank you for your attendance.

Judging by the interest shown in the OLCO stand at the recent Harrogate ME exhibition, OLCO is still viable and relevant as an organisation and I am confident that we have a future. We enrolled eight new members – one for five years – the others for one year and it will be a measure of our success whether or not they continue as members after their 'trial' year. We need to make OLCO an attractive organisation to belong to and to look to our strengths. I think attendance at Model Engineering exhibitions is an important aspect of publicising both OLCO and Lion and clearly Harrogate last week was a success, there being much interest and also despite the work involved, very enjoyable. I count it as an opportunity to meet members we might not otherwise see. I would like to thank those who supported the event with loan of locos: Alan Bibby and John Mills and also Philip Pritchard, who helped to man the stand. I am still convinced that we need to extend this role with exhibitions in the south, ie, the Model Engineering Exhibition; Alexandra Palace; Bristol, so emphasising that we are national/international, not just a northern society.

We could also contemplate any open days and other events, (eg Wolverton). All of which of course, require effort and participation. I am happy to play my part in organising and supporting them. Also, in the way of publicising ourselves we should be considering articles in Model Engineer, Engineering in Miniature, etc about Lion and OLCO – not just a one-man effort, but collaborating to say who we are and what we do and to share our knowledge of Lion. EF's articles in Lionsheart are an example of the sort of thing which is worth wider circulation and also constructional articles regarding models.

We ought to publicise Lionsmeet more and attract support to the extent that host societies regard Lionsmeet as a prestige event and are keen to have us. Having said that, I am full of praise for all the work that Alan Bibby has put in over the years in advertising Lionsmeet in the model engineering press and submitting reports to them.

York was disappointing due to weather and lack of participants. On the other hand we did very well at Brighouse. Hopefully, Kinver will be successful. Alan Bibby does a lot of work for Lionsmeet and I would like to thank him for his efforts and excellent networking, but he needs support, especially participants, publicity and organisation of the day, especially if it gets bigger. We need to encourage a display of Lion and other models as we have in the past.

Another attraction of OLCO is Lionsheart. Thanks to John Hawley for taking on this onerous job. It has undergone a desperately needed renaissance and I would like to congratulate John on the quality and interest in the recent editions but, again, it is not a one man band and support with articles of interest are its lifeblood, so please contribute and make it interesting.

Now that I have thanked Alan and John, thanks are due to Jon Swindlehurst for very efficiently carrying out his role as Treasurer and the important role as Membership Secretary. It might be a bit behind the scenes, but it is very important. Thank you Jon.

Sadly, we have lost members – three passed away in recent months – Lionel Waldridge, Brian Woolston and notably, Bill Stubbs, who was very supportive of OLCO, especially Lionsmeet and he will be sorely missed.

Now to the future. I think we should be optimistic about OLCO, but the society is only as good as the efforts of its members. Our relationship with full size Lion is in the form of 'Friends of . . ' but we should actually help Liverpool Museum in any practical way we can to enhance Lion's display, if only in appreciation and thanks for their generosity and cooperation over the years in allowing us access to Lion. It is a commitment in time for them and I would like to take this opportunity to thank Sharon Brown and her colleagues for the kindness and help they have shown us, including as hosts for the AGM. We have a good relationship and should build on it.

Website. I had hoped to announce that we had one, but the matter is in hand and I am confident that it will appear before the year is out.

We need more publicity as I've mentioned, via shows, articles and should work towards a replacement or update of the Lion history either through OLCO alone or in cooperation with Liverpool Museum.

Regarding Lion or Titfield Thunderbolt models, I am convinced that this is still a popular project in 3 ½", 5" and more and more in 7 ¼" gauges. Given the number of requests for 7 ¼" G castings, we should be in a position to advise sources and act as a sort of clearing house.

Finally, top of our wish list, if we generate a lot of interest in Lion, it might just be the stimulus for a full size replica – perhaps in the form of the Titfield Thunderbolt – I'm sure it would be commercially successful as the Ealing Studios film has achieved cult status and we could surely have some input, if not financial. How good it would be if John Hawley's April 1st ruse could rebound in the nicest possible way.

Thank you all for your attendance and kind attention

Sale Items

Cylinder blocks for 5" Lion, with pistons and valve top fitted. Some machining still to do, but not much. Also four tender wheel castings and four castings of dummy loco springs.

Contact: Tony Parsons, tel: 01926 338 572, or better, email: tony@aparsons.com

≈ Lionsmeet 2010 Picture Gallery ≈

Photo – Andrew Naish

Photo 1. This was the Main Road in! On the right is Ye Olde White Harte, where we had our Evening Meal.

Photo – Linda Mills

Photo 2. Harrye Frowen fills the boiler of his near replica model with the assistance of gravity The model is based on John Hawley's drawings taken from the prototype.

Photo – Linda Mills

Photo 3. John Dalton steams round the ground level track. (He kindly let me drive this – very smooth and free running - Ed).

Photo – Linda Mills

Photo 4. "If this is a Rocket, where's that bit of blue paper?" Two Kinver members examine Jon Swindlehurst's magnificent model of Rocket.

Photo – Linda Mills

Photo 5. Last year's winner Jon Swindlehurst, and official observer Jan Ford ready for the 'off'. It is an OLCO tradition that last year's winner is the first to go.

Photo – Jan Ford

Photo 6. Young Sophie from the host club drew names to determine the running order of the remaining contestants. She hands the results to Lionsmeet Co-ordinator Alan Bibby.

Photo – Jan Ford

Photo 7. The pretty unforgiving looking tunnel entrance. . . .

Photo – Linda Mills

Photo 8. . . . and a safe exit. Jon emerges from the tunnel. John has equalled the late Mike Parrott's record of 6 wins. Would this be number 7?

Photo – Linda Mills

Photo 9. John Dalton's, very attractive **7**¼" gauge Lion based on the LBSC drawings, and his rolling stock..

Photo – Andrew Neish

Photo 10. Going up? Going Down? Whats going on?

Photo – Andrew Neish

Photo 11. No, we don't know either. Jan seeks to re-assure Jon.

Photo – Linda Mills

Photo 12. Meanwhile, steaming and beaming, David and Andrew Neish look all set to take their turns.

Photo – Andrew Neish

Photo 13. Another view of Harrye's well finished Lion. . See her in action on the Internet. Just type 'Harrye Frowen's Lion' into Google.

Photo – Linda Mills

Photo 14. David tends his engine while John, Alan and Jan check over the dynamometer car figures.

Photo – John Hawley

Photo 15. Jon Swindlehurst talks 'techie' with Barrie Larke. . Barrie had a 5" chassis in the models display. How's your valve gear, Barrie?

Photo - Jan Ford

Photo 16. Part of the large loop around the bowling green. The 3 ½" and 5" gauge tracks, in the form of a 'folded dumb-bell', are about 2,200 feet long.

Photo – Jan Ford

Photo 17. A few of the extensive display of part finished models. On track at left: (from front) Roy Master's 5" chassis; Alan Bibby's 3 ½" & 5" Lions. On table: 5" Rocket, by Jon Swindlehurst; Barrie Locke's inverted 5" Lion chassis; Mike Parrott Memorial Trophy, with box.

Photo - Andrew Neish

Photo 18. Another view of Harrye's very accurate Lion, although the cladding around the firebox sides is to his own design. After all, the brass 'Haycock' on Big Lion is only a 1930s addition.

Photo – Andrew Neish

Photo 19. David's brave run was spoiled by rain on the aluminium track.

Photo - Jan Ford

Photo 20. John wonders whether to water or to extinguish.

Photo – John Hawley

Photo 21. By the time it was Andrew's turn, the rain had stopped.

Photo - Andrew Neish

Photo 22. Hey Ho and around we go! John prepares for a return trip. John had brought an open wagon and GWR 'Toad' brake van.

Photo – Jan Ford

Photo 23. Andrew Neish relaxes after his run, but indicates that a cuppa would be nice.

Photo Jan Ford

Photo 24. Harrye had a disappointing day, due to failures in the valve gear department.

Photo – John Hawley

Photo 25. John Mills was the last runner, with a very strong performance.

Photo - Jan Ford

Photo 26. The scenery around the track was most impressive.

Photo – John Hawley

Photo 27. There's always time for a chat at Lionsmeet – unless you're competing, of course. When will these two lock heads in battle? Hopefully, Lionsmeet 2011 on 30th July at Chelmsford, chaps!

Photo - Linda Mills

Photo 28. John Mills negotiates the bowling green curve.. A footbridge is provided so as to give access to the bowling green when the railway is running.

Photo - Andrew Neish

Photo 29. David Neish and John Dalton relax after a long day. The 7 ¼" gauge track makes a triangular connection to a single line branch ending in a turntable opposite the 3 ½" and 5" gauge steaming bays. There is an 'inspection pit' for 7 ¼" gauge with a moveable traverser.

Photo - Linda Mills

Photo 30. This year's winner Andrew Neish receives the Mike Parrott Memorial Trophy from Kinver club chairman Peter Dawson. On the wall behind them is a picture of the late Bill Stubbs competing in last year's event. Sadly, Bill died later in the year.

Photo - Linda Mills

Photo 31. Competitors Jon Swindlehurst, David Neish, winner Andrew Neish; host club chairman Peter Dawson, observer Jan Ford, and competitor John Mills at the end of an enjoyable day.

Photo - The kindly waiter

Photo 32. And then we all went off for a bit of socialising in Ye Olde White Harte. From L to R: Christine Swindlehurst; Linda and John Mills; Jon Swindlehurst; David Neish; Andrew Neish; John Hawley; John Dalton; Alan and Barbara Bibby.

Tailpiece

Photo – John Hawley

Photo 33.
No, this isn't Lion and her rolling garage – but it could be! Believe it or not, these are both 3 ½" gauge models of full sized railway vehicles. Lion, (Alan Bibby's) is on the left of course. On the right is the tender for the Union Pacific Big Boy 4-8-8-4 locomotive, built during the 1940s for hauling huge freight trains over the Wasatch mountain range, Utah, from Ogden, via Echo to Laramie, Wyoming. The label reads:

SIZE DOES MATTER!

Although nothing to do with OLCO, this tender serves to demonstrate the increase in size of the steam locomotive from its early years in England to the demise of steam in the USA. Arguably the ultimate as far as size goes, the Union Pacific articulated 'Big Boys' with their 4-8-8-4 wheel arrangement, used a monster 14 wheel tender. This mammoth vehicle weighed 77 tons empty and, when fully laden with 25 tons of coal and 25000 (US) gallons of water, tipped the scales at 195 tons! The colossal fuel load was required to power a 3600 ton train the 40 miles from Ogden to Echo in Utah, USA, over the Wasatch mountain route during the 1940s and 1950s.

By comparison Lion, in working order and complete with tender, weighs 26 tons 11 cwt!

But that's Progress

The Bristol ME Exhibition 2010 - Report

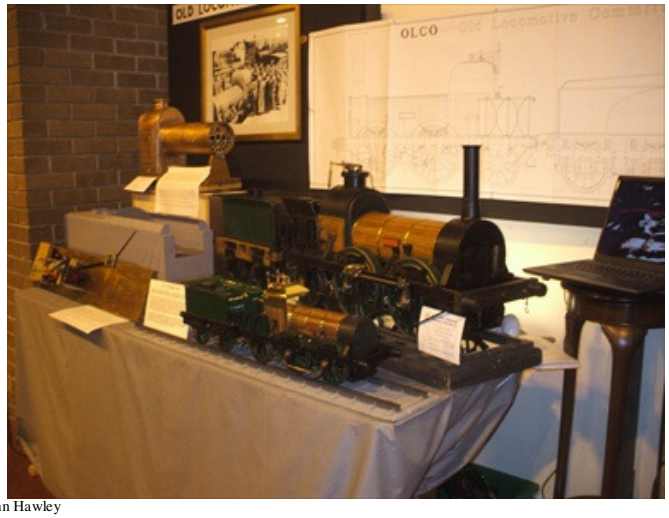
As usual, this was a well set out and very manageable event. The thing about the Bristol show is that there is always plenty of space to move around, to take stock and to breathe. The site is close to the M5 motorway, out in the country and has free car parking.

By 'plenty of space' I don't mean that there is a shortage of things to do and see. Far from it. There are two large exhibition halls, an 'outside activities' area (traction and jet engines, boats and steam road vehicles) and quite a few 'live' displays, including model helicopters, the artist Julie West, ornamental turning, etc. The host club, Bristol Society of Model and Experimental Engineers put on a free 'have a go on a Myford lathe' facility, whereby members of the public, under supervision, could try their hands at some basic turning, thus having an opportunity to get the feel of engineering at first hand. There were many private clubs, not just covering railways of course, but sailing, handicrafts, Meccano, internal combustion engines, wheelwrighting and many others.

Among the trade stands were boiler makers, NC machinery suppliers, raw materials, CAD software, books, electronics, adhesives and, of course, the usual big names, plus those who deal in all sorts of second hand equipment. I asked for Clarkson milling chuck collets and an arbor for my keyless drill chuck on the HJH Tooling stand. They had nothing, but promised to have a look 'at home'. Next day they came up with the goods, in 'as new' condition. Well, that was one very satisfied customer, at least.

BSMEE also had a 'build from kit' demonstration, whereby they started with a box of bits from Polly Model Engineering on the Friday morning and attempted to finish building a loco by the time the show closed on the Sunday afternoon. They very nearly succeeded.

OLCO were there in force, displaying models by Alan Bibby, (3 ½" Lion) and Harrye Frowen, (7 ¼" Lion). John Brandrick had brought down the OLCO banner and supports. We also had a video of Harrye's 7 ¼" during build and steaming around his Cardiff home track. I had worked all through one night on the gab valve gear demonstrator, but still wasn't satisfied, so stayed up late another night to get it to a reasonable standard. Just as well, too, since a couple of kids gave it a thorough going over on the 'have-a-go' handle. It survived! I must say, I would not have been able to manage the OLCO stand were it not for the stalwart efforts of Harrye, Alan and John, so thank you gentleman.



Photos – John Hawley

View of Hall One, as seen from the balcony of the Severnside Suite Refreshment Area. This was an ideal place to take a break, a cuppa and watch the world passing by down below. The OLCO stand, identifiable by means of the black OLCO banner, is in one of the little bays below and just to the right of the clock on the far wall.

The OLCO stand. On display, L to R: John Hawley's Lion valve gear demonstrator, Big Boy tender & Peter Carr built 7¼" boiler. Above, John Brandrick supplied the Ealing Studios Titfield Thunderbolt still. Against the back wall is Harrye Frowen's 7¼" Lion. In front is Alan Bibby's 3½" Lion and, at far right, Harrye's Youtube film of Lion under construction provided entertainment and help for visitors.

Snippets (1) Lion's Buffers and the Art of Keeping Stuff by John Brandrick

Never being one to dispose of anything which might conceivably come in useful one day, the recent dismantling of an old bedhead yielded a useful piece of plywood which got incorporated into a box for my Lion (if it ever gets finished) and a large quantity of horsehair, the crinkly variety used in upholstery and presumably the sort used in 'piano stool' buffers as on Lion which have always fascinated me. Consequently it too was saved for future use in case I get tempted to make some buffers of the correct pattern. I'm sure this would be a fiddly job in 5"G or even 7.1/4"G but I can't resist the temptation to try so if there are any other like-minded souls out there I can supply you free of charge as I think I have enough for approximately 200 5"g buffers or 120 7.1/4"G ones. A word of warning though. I gather that anthrax was an occupational hazard of handling this stuff although I haven't developed any symptoms myself yet!

(Editor's Note: Thanks, John, especially for the anthrax warning! I too have harboured stuffing for buffers, In my case, though, I managed to persuade my teenage daughter to let me have her below-the-shoulder locks when she 'went short'. Mind you, that was years ago. But, having read a few (and watched many) detective stories, I understand that hair lasts a very long time. So, by the time you and I get around to it, we should have a handy stock of something to start off with. Just a thought though, dare I ask where the 'crinkly' horsehair comes from? Bedstead? Yes, I know, but which part of the horse?)

Lion in Model Engineer

About once a year OLCO 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 procedures 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 before work starts. Each entry covers both gauges, unless specified.

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 6l4101. See also Note below.

This is an updated version of a previously issued list, being more accurately targeted at specific topics. It is to be hoped that it is of interest and use to our readers.

Date	Vol/Issue	Pages	Class'n	Title
16/04/53	108/2708	469	--	The Titfield Thunderbolt (Just a brief Introduction)
11/06/53	" /2716	698-701	1.	GA, Photo & Frames
02/07/53	109/2719	2-5, 8	2.	Motion Plate, Inside Frame, Wheels, Plain Axles
23/07/53	" /2722	95-99	3.	Cranks, Eccentrics, Coupling Rods, Springs
13/08/53	" /2725	186-190	4.	Cylinders, Valves, (3 ½")
20/08/53	" /2726	224-226, 232	5.	Cylinders, Valves, (5")
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.	Valve Gear (Loose Eccentrics)
12/11/53	" /2738	578-582	9.	Gab Gear (5")
03/12/53	" /2741 **	656-659, 662	10.	Gab Gear, (3 ½")
17/12/53	" /2743	726	Letter.	M H Cox – Why? (5" Appearance and Wheels)
24/12/53	" /2744	758-762	11.	Reversing Lever, Reach Rod – Lubricator for 5"
14/01/54	110/2747	28-31, 34	12.	Boiler, (3 ½")
04/02/54	" /2750	124-127, 131	13.	Boiler, (5")
11/02/54	" /2751	160	Letter.	R F J Pounds – Out of Scale Wheels. (Wheels; Hornplates)
25/02/54	" /2753	214-217	14.	Boiler, Tubes, Rivets, Assembly
18/03/54	" /2756	291-293, 296	15.	Dome, Lubricator for 3 ½"
08/04/54	" /2759	381-383, 392	16.	Blower Valve, Boiler Stays, Pressure Test
29/04/54	" /2762	470-472, 474	17.	Smokebox, Chimney
20/05/54	" /2765	551-553	18.	Blower, Regulator, Superheater (all 3 ½"). Snifter (Both)
10/06/54	" /2768	653-656	19.	Blower, Regulator, Superheater, (5")
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 (Grate, Ashpan, Side Support Brackets)
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 (Splashers, Steps, Railings, Buffers, Couplings)
04/11/54	" /2789	534-536, 544	26.	Details of the Tender
25/11/54	" /2792	630-633	27.	Tender - Horns, Axle Boxes, Water Valve (all 5").Plumbing (Both)
23/12/54	" /2796	744-747	28.	Tender Brake Gear
30/12/54	" /2797	758-759	Article.	LB Parkin's "Lion" (5")
15/05/58	118/2973	638-641	Article.	A Lion is Born by F F Few
02/10/70	136/3402	948-951, 978	Article.	A Prize Winning Model "Lion" by L A Saxby (5")
21/12/73	139/3479	1222-1224	Article.	Modifications to a 5" G "Lion" by L A Saxby (Valve Gear)
06/07/79	145/3612	784-787	Article.	A Lubricator for "Lion" by D A Neish (5")
01/04/83	150/3702	430	Letter.	N Smith – "Lion" in 5" G – Information Required
20/05/83	" /3705	620-621	Letter.	C E Taylor-Nobbs - 5" G. Information (Wheels; Lagging; Gabs)
17/06/83	" /3707	714-718	Article.	Modifications to a 5" G "Lion" by K C Miller (Various items)
01/07/83	151/3708	48	Letter.	R F Austin – Titfield Thunderbolt (Lion) Troubles (3 ½" Gabs, etc)
05/08/83	" /3710	137-139	Article.	Some Historical Notes about "Lion" by C E Taylor-Nobbs. (Valve Spindle Support)
21/10/83	" /3715	476	Letter.	M Smithers – "Lion", More Details (Prototype Boiler)
17/02/84	152/3723	190-193	Article.	"Lion's" Crown by K C Miller (5" Haycock)
03/08/84	153/3734	130-132	Article.	"Lion" The Questionable Origin of her Boiler by C E Taylor-Nobbs
19/04/85	154/3751	439-442	Article.	"Lion" The Whys & Wherefores of her Tender by C E Taylor-Nobbs (Drawing, etc)
02/08/85	155/3758 ***	150-151	Review.	Scale Wooden Boiler Lagging **
03/06/88	160/3826	657-660	Article.	A Century of Progress 50 Years Ago by C E Taylor-Nobbs. The Story of a Painting.

* Note 'SOS' apology at end of page 315 for dimensional error on 5" Motion Plate at top left of page 4 of Vol 109.

** See also photo on front cover and 'Cover Picture' note inside.

*** This review is now for information only. Sadly, the maker of this lagging, Alan McKirdy, has passed away. See obituary in LH65, pg 11.

Note: OLCO have in preparation a set of drawings measured from Big Lion herself. For further details, please contact John Hawley on 01275 472023 or email: ringjph@talk21.com

If you know of any other articles which are worthy of inclusion here, please advise John Hawley, contact details above.

Dates for your Diary

1. Alexandra Palace January 21/22/23;
2. AGM Sat 7th May, Juniper Street, Liverpool;
3. Harrogate May 13/14/15;
4. Lionsmeet 30th July, Chelmsford.

Details of AGM and Lionsmeet to be announced when finalised. Others dates to be announced when known.

Photo – Please own up. I've no record

Lion awaits restoration in the Juniper Street store. But for how long?

Please note in your diaries the dates above. Of especial interest will be the AGM. Can you see the windows to the left of Lion in this picture? Well, the AGM is usually held in that office! That's how close we get to Big Lion! She is currently in the Juniper Street store for painting prior to going on display in the new museum on Liverpool's historic waterfront, near the Liver Building and Albert Dock.

Lion's tender is being painted as you read this. Soon, work will start on Lion herself. There is always the worry that the work will be completed quickly and that we won't be able to get this close ever again. This AGM may be our last chance to get up close and sort out, maybe even photograph, those last niggly bits that we've always worried about and never quite had the opportunity to examine close-up.

At last year's AGM, Jon Swindlehurst holds Lion steady, while John Hawley, on the footplate, pushes hard, but she won't budge! Looking on is Peter Featherstone, while John Brandrick, just visible at far right, looks to see if the valve gear has fallen off. Meanwhile, in the foreground, the tender wheels threaten to roll forward and engulf us all. I am reliably informed that the black item at the bottom of the picture is not a part of Lion's streamlining. Just below the tender axles can be seen two of Lion's four splashers.

Snippets (2) OLCO At Model Engineering Exhibitions in 2011 by John Brandrick

OLCO will have stands at Alexandra Palace January 21/22/23 and also at Harrogate May 13/14/15.Hopefully we will also have a stand at Bristol in August. If you are attending any of these please come and say hello or better still help out with the stewarding as it gives the 'regulars' a break to get to see the show themselves. I always find the OLCO stand an enjoyable experience and you frequently meet some interesting people.

Lion as a Pump Model

At previous AGMs our President EF Clark has suggested a model of Lion used as a pump which could be exhibited alongside Lion in the museum. This is a worthwhile project as most of her working life was spent in this form and it shows Lion as she was when the Liverpool Engineering Society's Old Locomotive Committee secured her for restoration. Lion would be placed in a cut-away model of the pump house for which plans still exist. The name of David Hulse immediately came to mind. Readers may well be aware of his excellent models of early stationary engines which have been on show at various exhibitions all within authentic engine houses for which he has manufactured miniature bricks. I was fortunate in being able to meet him at the last Midlands ME Exhibition to discuss whether such a project would appeal to him. Sadly he declined, mainly because he said he was not a loco man even though I stressed that it was essentially a model of a stationary pump and there isn't much to the loco as the motion is all hidden away. Anyway, he wouldn't budge but I think the project is worth persevering with as long as Liverpool Museum is interested in displaying such a model alongside Lion. They may feel photographs serve equally well and take up less space. It is worth having this on the Agenda at the next AGM.

Late News – Film of the Liverpool Overhead Railway

1897 Overhead Railway Footage Screening

Members of the public are invited to attend a free lecture and screening showcasing new findings on the famous Lumière Brothers' Liverpool Overhead Railway films, as part of the public programme for the new Museum of Liverpool, due to open in Spring 2011.

The screening will take place at FACT (Foundation for Art and Creative Technology) on Friday 29 January from 1 - 4pm, featuring highlights of the film shot by Alexandre Promio in 1897, introduced by Dr Richard Koeck from the University of Liverpool.

Dr Koeck will share insights into his research and ongoing production of the film animations that will contextualise and reference the original Lumière archive footage with historical maps of the time, and retrace the precise route of the films.

Sharon Brown, curator of land transport and industry for National Museums Liverpool will also provide an insight into the history of the Liverpool Overhead Railway itself.

Sharon said: "An original Liverpool Overhead Railway motor coach will be a key feature in the new Museum of Liverpool's Overhead Railway gallery. It will be displayed in an elevated position as part of a re-construction of Pier Head station.

"Dr Koeck's completed work on the Lumière archive footage will also be shown in the gallery, allowing visitors to get a real taste of what it was like to travel on the world's first elevated electrified railway line, and what they would have been able to see in 1897 four years after it first opened."

To reserve your place for free, please call Sam Turner at National Museums Liverpool on 0151 478 4543 or email sam.turner@liverpoolmuseums.org.uk

When the Liverpool Overhead Railway opened in 1893, it ran the length of the Liverpool docks, which was around seven and a half miles. It was built to ease congestion along the docks but also served as a tourist attraction as it provided amazing views, both of the docks themselves and the shipping and transatlantic liners on the River Mersey.

The only surviving motor coach was presented to National Museums Liverpool after the Liverpool Overhead Railway closed in 1956, and is currently being conserved before being moved to the Liverpool Overhead Railway gallery in the new Museum of Liverpool.

The Port City gallery within the Museum of Liverpool will tell the wider story of how Liverpool transformed itself from a small tidal inlet to one of the world's great ports, and discover the innovation which led to the city's boom during the Industrial Revolution.

Liverpool led the world in developing early canals, the first timetabled passenger railway, new dock technologies and the Liverpool Overhead Railway - the world's first elevated electrified railway line.

This project has been enabled by Northwest Vision and Media and the UK film Council's Digital Film Archive Fund supported by the National Lottery.

Museum of Liverpool

Currently under construction at the Pier Head, the Museum of Liverpool is the new national museum for the people of Liverpool

The museum will provide 8,000 square metres of public space across three floors, and visitors will have access to over 6,000 objects that are currently in store, many of which have never been on public display before

The galleries in the museum will focus on four main themes: Port City, Creative City, People's City and Global City

- As a major boost to the Liverpool economy, it is estimated the Museum of Liverpool will attract more than 750,000 visitors per year, provide at least 500 construction jobs and 73 direct permanent jobs

Find out more: A display about the museum is open at Piermaster's House, Albert Dock. It features a model of the museum and information about the museum's galleries and the objects and stories on display. It is open daily from 10am to 4:30pm and entry is free. **For more information visit www.liverpoolmuseums.org.uk.**

Editor's Contact Details

If you would like to contact the Editor on any issues raised in this newsletter, or for any other reason, the details are below:

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