

The Oily Rag!



PhotoDonHancock

TME.membersadmiringavisitingHunsletatarecent
Creechrunningday.

The Taunton Model Engineers'
magazine

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From the Editor

A fine summer, a lot of TME activity and a flood of reports means more club information this time and less space for pieces of general interest. However I think two articles will stimulate debate. David Hartland has responded to my comments about battery electric locos with a piece about this new class 04 diesel. From farther afield and I think likely to be more controversial, the reissue piece by John Wood of the Crowborough Locomotive Society. Our hobby has to develop to survive is heat trail blazer or is this a blind alley?

The article on adding 2 ½" gauge to the track at Vivary has resulted in two letters to the editor. Letters to this editor are rare so some member feel strongly about this project. Talking to other there seem to be a consensus that it would be a good move, but doubts exist as to the number of current members who would be persuaded to work in this scale and the number of outsiders who would either join the TME or use the track as visitors. So the debate continues.

John

Chairman's Notes

By Mike Johns

The Creech lease saga continues!

The briefing meeting with our solicitor (when I was supported by Andy Cooke and David Wood) was held as planned on 30 June, following which he sent a letter to the Parish Council solicitors formally inviting the PC to a joint meeting with TME to be attended also by each party's solicitor. The aim was to resolve outstanding issues in one sitting. No reply has yet been received (24 September)

Regular contact has been kept with our solicitor and informally with the PC Chairman throughout August and September. The latter has indicated they do not wish to incur more legal expenses; and that they are prepared to vary the lease to take care of TME's concerns. However we have made it quite clear that we need to see the actual terms in writing before committing TME.

Around mid-August the PC Chairman advised that the modified terms had been passed to their solicitor prior to the Parish Clerk going on holiday yet nothing had yet transpired. By 22 August the PC solicitor was on leave, to be followed by the Parish Clerk on 9 September!! Still no news.

As of this week (23 September) no advice has been received by the PC nor ourselves. The next step was for the Parish Clerk to go and 'camp' in their solicitor's office on 24/09 until he was assured that some action was being taken!!

On a more positive note the Creech community held a 'Party in the Park' funday on Saturday 12 July which TME was pleased to be able to support by operating the railway. In the fine weather all enjoyed we attracted our best ridership yet with 384 passengers carried with up to 4 trains running for the 3 hours we were open. To mark the occasion we decided that all TME taking that day should be devoted to charity and I am pleased to be able to advise that a donation of £200.00 is being made to the Children's Hospice South West. (see back cover.) Thank you to all who took part.

News from Creech

By Mike Johns

Generally running days this year are being supported better than hitherto although the 2 days in August had to be cancelled down due to the poor weather and lack of people on site. At other times we have

had steady flows of passengers, rarely queuing yet providing comfortably loaded trains most of afternoons until at least 16.30. Usually we are able to offer a choice of locomotives thanks to the contributions made by Allen Wellesley - Miller, Tim Hims, Tony Newberry and Tony Gosling.

Mention has already been made of the Creech funday but this was also notable for having 2 significant vehicle derailments, fortunately without injuries. One was due to displacement of an axle bearing leading to excessive axle wear and fracture; the other due to breakage of a cast iron wheel when 2/3 of its flange was lost. These wheelsets were second hand and had been well used when TME acquired them from the Great Cockcrow Railway in Surrey.

These incidents affected 2 of the TME vehicles, one of which sustained bodywork damage. As 2 spare bogies were on site it has been possible to return the other vehicle to service and to add a third thanks to its loan by Mark Hartnell. The aim this winter is to rebuild all the bogies with new steel wheels and new bearings in cast iron axleboxes plus repairing the damaged vehicle.

Thanks are due to Tim Griffiths who has spent some time repairing the ride-on mower and, along with Mike Pinkney and Tony Gosling of the Thursday gang, has also taken care of weed-killing and keeping the edge trimmed tidily. The whole site is looking much better this year.

However in view of the leases a good housekeeping has been taking place and some of the heavier site jobs we wanted to do have been deferred. Inside the workshop work is continuing on the 2 Hymek locos. and, thanks to David Hartland, a Harrison lathe has been installed (which authorised members may use) together with a heavier duty bench drill.

Report from Vivary Park

By Diana Fathers

We have missed a few running days at Vivary as we've been at steam rallies but the weather has mainly favoured us at Vivary and custom has been good, with lots of "new" people who have found us for the first time. It has been good to welcome Pam Martin back and, bless her, she arrived bearing gifts - her cakes always go down a treat! We haven't seen John and Maddie Clark for a while now, and we miss them, but it's nice to see Peter there when he can make it and we all wish his parents well.

Taunton Flower Show (which unfortunately clashes with the West Somerset Railway Rally so we couldn't make it) proved popular as always - despite the single but absolutely torrential heavy rain shower on the Saturday. The Sunday was also a running day, with good weather, and went very well.

The Tuesday evening sessions have been well attended, proving that somebody had a great idea that benefits members and makes for a good social summer evening. The first running was on 8th July, in lovely weather. There was a great turnout (28!) and several locos. Bob Richards steamed up his Thompson B1 for the first time which was much admired by all! It was very good to see David Spicer back at last, after finally returning to his flooded home in Fordgate, near Moorland. Subsequent Tuesdays were very enjoyable but the final running ended in spectacular fashion!

Only two locos turned up and one of these was there for a steam test. That left John Pickering, who could play away to his heart's content. In order to save the effort of putting in the extra sections that cross the footpaths, it was decided to leave them out and shunt back and forth.

John was hunting backwards when he totally forgot that the extra section was not in place and promptly drove straight off the "cliff's" edge, and ended up sitting on the ground. There was considerable damage to his riding chassis but fortunately, his loco was unscathed. He is fully aware that he will never live this down!

There is an official report on CLUBLEC elsewhere in this issue but it was greatly enjoyed by all and the weather was great. Sadly the earlier date meant that it clashed with some other events and only three people with loco turned up. One of these was Mark Sweet who has been benefiting from the Tuesday practises - and proved it when he took his 3 ½" gauge loco and passengers round the track non-stop for the full twenty minutes, earning a cheer and applause from everyone.

As Phil still had plenty of steam he didn't want to waste it, so the "bonus" of finishing early meant that we could offer rides to the public, even starting half an hour earlier than usual. We had no official tickets so we found a book of raffie tickets and used them. The intention was to finish at 3.30pm but it was a lovely day and Phil carried on non-stop until 4 o'clock - when both he and his loco were just about worn to a frazzle - but at least it made some extra, unexpected revenue for the Club.

Once again, it was a pleasure to open the track for the annual visit of the Wellington Pre-school children, on Tuesday 23rd September. They spent an hour taking it in turn to travel and had great fun pressing the hooter on David Wood's engine, which, incidentally, is very loud!



Dave Wood with some happy passengers

Several members arrived at the "crack of ridiculous" to greet the Brean Steamers on Thursday 18th September, only to find ourselves still waiting after lunch, with no news or means of contacting the visitors. It turned out that there had been a change of date – of which we were unaware.

A week later the Brean Steamers arrived. A friendly group with no less than six engines. It was treat to see so many following each other around the track – watched by a delighted audience from the children's playground! Some TME members took advantage of the offer to drive a different loco from their usual model and another year's visit was over all too quickly.



A busy day at Vivary!

We are looking forward to the last couple of runnings in October and hoping the good weather will hold out until the end. After that, there is just the Santa Special so, that's all for now folks.

The Ticklers

(Horological sub group)

By David Spicer

I am preparing to go to British Horological Institute, at Newark to attend the latest Harrison meeting and will gather all information and report in the next Oily Rag.

Hugh and Trudi's do

By Hugh Rudham

I have been asked to describe some of the items displayed at our little do in East Devon. I am probably the best person to ask as I only know what is in my stores!

Commencing with the largest, the Shepherd's Hut. It was purchased in Montacute as a restoration project. It had been built locally by a farmer/carpenter; this could be deduced by the economies in the construction. I have photographs of the original user. In latter years it was very well used by the younger generation as a social point as indicated by some revealing art work on the walls. It was a total rebuild and finally fitted with a cast iron range – the portable type suited to the moonlight flit from rented accommodation, the other type was built into the masonry of the chimney breast so not portable.

In the same area there were two decrepit tractors – these are in daily use, not awaiting the scrapman. They are a Massey Ferguson 35X and a David Brown 995 and worth three times their original price. In close proximity a visitor from Somerset had a Gutbrod horticultural tractor of 1960's era, single cylinder 4-stroke petrol engine so very popular on the continent for small farms, complete with a range of implements.

Close to Tim's MGB, and a very nice one too, was an MGM Midget round wheel arch and 1275cc. A total rebuild and new body shell. A lovely piece of work by London Road Garage – our friend Trevor, now retired from the motor trade – owner, the lady of the house. Another example of his work was the Morris 1000 pickup, known locally as Horace.

During the course of the afternoon we had a most pleasant surprise in the form of a sympathetically but immaculately restored Standard 10 motor car. This vehicle is owned by Bernard, a local villager. It rekindled courting days among some older members of the Club.

Now we come to the sheds, well, where do I start? Mr Ray Yeow with his usual attention to detail gave demonstrations of how to get the best out of his own built Quorn T&C grinder; who could do it better? However, when I said I had a 14BA die that could do with a bit of a touch up he became quite forceful.

One section of lamps and stoves, dare I call it 'paraphernalia', had some interesting exhibits. Did you notice the oil lamp to be used as a dark room safe light when developing photos on light sensitive paper? Photography has gone from no electricity to all electricity in a century. Also, a Tilley lamp style heater, with a copper reflector is unusual and it works. The small folding picnic stove, a small Primus, is great fun on a moorland walk.

There were also some stationary engines for inspection. A 1918, Lister L petrol engine, very popular for barn use, could be seen. Interesting feature is that the head and the block are all in one casing although the valves could be accessed through plugs. In damp conditions condensation caused many trips to the fire side with the plug and magnet for a good dry out in an attempt to get the engine running. However, help was at hand with the diesel engine. The Lister Cold Start was a god send, and is still made in India and used all over the world. Most of these engines were used for water pumping and power generation, Start-O-Matic ring abell?, they were easy starters. Two were on display, both a single and twin cylinder - CS6 and CS12.

I hope you find this interesting and a reminder of a fun day out - thank you for coming.

Clublec – Efficiency Competition 2014.

By David Hartland.

This year's event was held on 31st August. The weather was very warm, with lots of members present, but unfortunately only three locomotives were entered.

First on was Ian Grinter with his Royal Scot. Ian made a good start with 10 passengers and a dog, and completed 15 laps non-stop. Phil Mortimer, the reigning Champion, followed, with his Britannia and again with ten passengers, and completed 14½ laps. Finally, Mark Sweet entered his 3½ in Maisie, and completed 12¾ laps with two passengers. The final scoring was as follows:

Driver	Load (pounds)	Distance (feet)	Coal (pounds)	Score
Ian Grinter	2523	10,125	2.50	10.2
Phil Mortimer	2549	9788	1.90	13.1
Mark Sweet	741	8606	1.25	5.1

Once again, Phil Mortimer and the Britannia have triumphed, burning very little coal (and incidentally boiling very little water). He takes the trophy for another year. Mark Sweet entered the only 3½" locomotive, and since there is an award for the winning 3½" loco at Clublec, and his was the only entry, then he wins that award! His score, of 5.1 was very creditable for a small engine.

Many thanks to Diane Fathers, Pam Martin and Barney Evans for their refreshments, which were much appreciated!

Next year we look forward to more excitement and hopefully more challengers to the incumbent trophy owner!

The Trials and Tribulations of IMLEC 2014

By Phil Mortimer

I could describe it in two words.
Complete failure

My 5"g Britannia, *Bodge of Oman*, was prepared and loaded into the van and I set forth, with Ian Grinter on Sunday morning 13th July, to do my best in IMLEC 2014 hosted by Bournemouth & District Model Engineering Society at their track in Little Down Leisure Centre grounds.

Unloaded and positioned in the steaming bay everything was completed except for lighting the fire. I had plenty of time to watch some of the other competitors do their run. When the appropriate time came I lit the fire, got steam up and moved onto the track for my start at 13.40hrs.

Dynamometer car coupled with four trolleys so I could pull 12 people total. Ready for the off, I opened the regulator, we started to move and then I could not close the regulator to stop the wheels from spinning. Three 10aboltheadsthatholdtheregulatorbracket on the backhead cladding had sheared. That was the end of my IMLEC 2014 attempt.

There is a much happier ending because I was allowed to have a run after the presentation. Because my failure was a mechanical one, I could repair the problem and give a member of The Grave send Society a ride. Repairs carried out, I met the Gravesend member, Graeme, and went over the controls with him, because I had been told he was a competent driver, so he could also drive *Bodge*.

Steam up, on the track with two trollies coupled and Graeme sitting behind me, I drove for about four laps and then I let him take the controls. A few of the other members had a ride whilst Graeme was driving, and I think he achieved about seven or eight laps before we came off. Yes he is a competent driver.



Graeme at the controls of Phil's Britannia.

It was a privilege to be driven by Graeme because he is a severely disabled Afghanistan war veteran. He has just finished building an 0-4-0 Scamp with a saddle tank. Another locomotive he has built is a Simplex also with a saddle tank. Graeme drove the Scamp round the track for the first time on

Saturday evening. He also drives locos belonging to other members of his club.

Taming the Volts and Amps

by David Hartland

Our worthy editor mentioned a couple of *Oily Rag!*s ago about battery electric locomotives and whether they gave interest and satisfaction in their construction.

Well, here is my story. Years ago my employment brought me into contact with battery mobility vehicles – the company I worked for

made around 500 per year. There were rugged, effective and powerful, but too expensive and the business failed. What the work did do however, was leave me with a number of batteries, controllers and motors for a future project.

My observations of battery electric locomotives in 5 and 7¼ in gauge tend to fall into two classifications. Either they are of scale outline, well detailed, but not very powerful; or they are powerful and heavy but bear little resemblance to any scale prototype. If I were to build a battery loco I was determined that it should be a faithful scale model but should have as much power and weight as could be included – ‘a Wolf in Sheep’s Clothing.’

The key issue is the need to get the motor and the batteries into a scale body outline. The common approach is to place a small motor between every set of wheels, geared direct to the axles, and several manufacturers cater for such arrangements. I was in a different position – I had one large motor to fit into my design, but it presented a similar difficulty to those faced by modellers in 00 gauge – the motor is too large to fit between the wheels and must protrude into the bodywork. That, of course, leaves less room for the batteries.

The years went by as I mused about this issue, but then a locomotive came up for sale. This was a model of the Drewry 0-6-0 204hp shunter of which a total of 141 of these locomotives were built between 1948 and 1961 and several have been preserved.

The model for sale had been made as one of the tramway locomotives which were fitted with side skirts for working down the street in Yarmouth – for that reason the builder did not have to construct the motion work and indeed the model had been built as a simple 4 wheel chain drive chassis under the skirt. What attracted me, however, was the steel bodywork which had been made exactly to scale.

I decided to purchase the model, keep the bodywork but discard the chassis for another project.

I would then be able to construct a new chassis to the correct design with all the coupling rods and the jackshaft, and fit it with my motor and batteries. Careful measurements followed and I

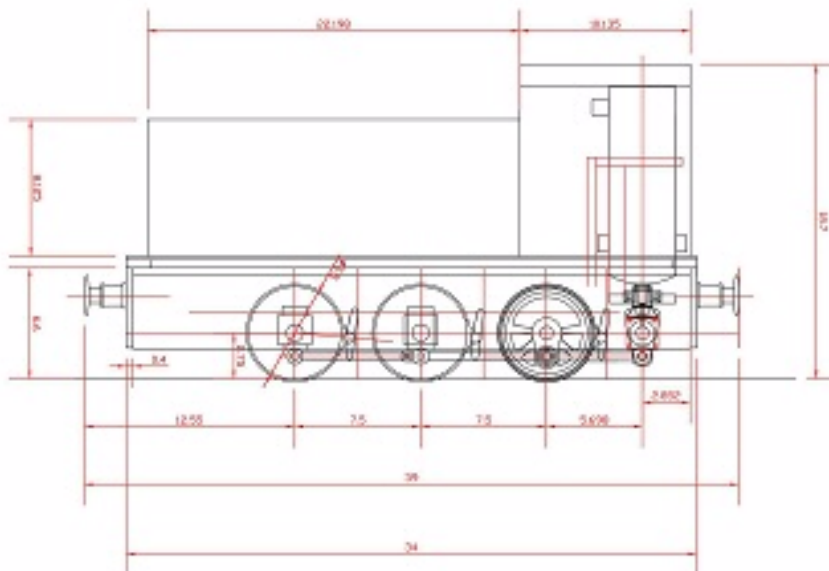


The prototype.

was delighted to find that the model class 04 bonnet would just cover the two traction batteries with just a tiny clearance over the battery terminals. The motor could only go upright, which would mean it would stick right up into the cab, but in this position was just clear of the underside of the cab roof. The motor would be directly above the jackshaft and if I could find a suitable right angle gear drive then the jackshaft would drive the coupled wheels exactly as on the prototype.

I was able to inspect one of the preserved locomotives at Toddington and took a number of measurements and many photographs. The general arrangement of the model was drawn on CAD and I have pointed out before the benefits of this in terms of a new model design. Everything can be drawn inaccurately, with as much detail as is required. The motor was drawn in the only possible position and the batteries just about filled the rest of the space. There was just room for a vacuum pump and air horn pump (although the trumpet themselves would have to be underneath the axles). The drawings show this side elevation. Following the policy of making everything heavy, but still generally to scale shape, I designed the frames from 8mm thick x 100mm steel, and the buffer beams were 6x1/2in

Construction started with the frames, buffer beams and stretchers. The locomotive is only 40" long but I could not even lift the frames. This was going to be a heavy lump to move! Axle boxes were sawn and machined from a large lump of cast iron (which began life as a power collector shoe from a Southern Region electric train), and the wheels were machined from solid slices of mild steel bar. The shape of these is rather complex and the more you look the

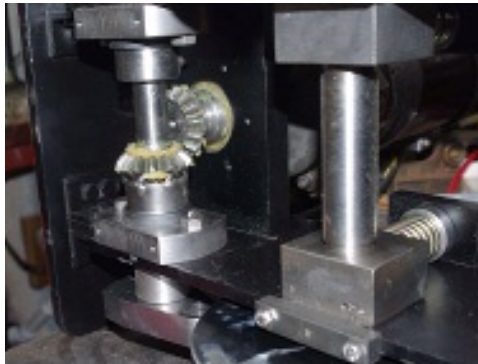


Class 04 General Arrangement.

more complex they are. It took some time to sort out a suitable programme for a CNC machine to complete the machining, (and I admit I had some help in this from a colleague at work). Firstly an aluminium blank was machined to confirm the programme and the six wheels were machined from the steel blanks - balance weights, spokes, crank pin holes - all in one go. The big challenge, however, was that a awkward right angled drive on the jackshaft.

The motor was a 500W nominal power, driving the output shaft via an internal gearbox at 430rpm, drawing 6amps at 24volts no load. The wheels are 5½ inch diameters so if the drive were 1:1 this meant a top speed of $430 \times 5.5 \times 3.14 = 7426$ inches per minute, or 6.9 miles per hour. This seemed a little fast for 7¼ gauge, so I was really looking for a drive to the jack shaft of about 1:1. I hunted high and low in the market for a suitable gearbox. In the end, all I could really find were loose gears and these were never of the right size or ratio. I was given some Mini differential gears which were close to 1:1.5 but these were awkward to mount in the space. In the end I used a pair of bevel gears from my own odds box and settled for the 1:1 ratio. Perhaps the loss would be fast as well as heavy! I was able to mount two combined needle roller and thrust bearings into flanges on each side, inside the frames, and a 20mm shaft passed through the set to form the jack shaft. Outside the frames there are the scale cranks with their characteristic large size webs. The motor is fitted with an extension shaft running in a 1½ inch ball race and the bevel gears which I had to bore out to fit each shaft.

The photo shows the finished gearing with cover removed. The meshing of these bevel gears was a bit of a problem and it was only after two trial fits and attendant re-machining that I was happy with the running. Coupling rods and connecting rods were conventional and being in effect a 0-8-0 there are four lots of quartering and rod length to get wrong! All was well, however, thanks in part to the ability to accurately measure the pitch of the axles with a big micrometer and then use a digital readout on the mill to accurately space the bores in the coupling rods.



The finished gearing



Locowithcabremoved –notthetemporary wiringarrangement

Theinstallationof batteriesand controllerwas straightforward afterIhad decipheredthe controlelectronics (Ihadfoolishly neveracquireda wiringdiagram withallmy hoarding activities).The batteriesrequired a plasticcoverto

befittedasthe terminals weresoclosetotheinsideofthebonnet. ThelocoranwellonthebenchandthenIwasjustintimetovisit MartinRickitt'slinein Augustforashorttest.

Theshorttestwas successfulandit becameafull -blown eveningrunning sessionand thisplucky little04endedup haulingacoupleof passengertrains,one loadedto8persons plusabrakevan.



photobyMartinRickitt

Thetestrun.

Whatisleft todo?

Well,Iwanttointroducesomeinstrumentationinthecab,showing voltsandamps;thehornandvacuumbrakesneedinstall ing,and thereissomefurtherdetailingworktofinishonthebodywork.

I also need to work out a way of sensibly loading and transporting the model, since the whole unit with batteries installed weighs 240 lbs.

Back to the original question – is a battery locomotive ever as interesting to build as a steam locomotive? Perhaps electricity is not quite as interesting but in reality the work involved is not that different, especially if it includes design input. Compare for instance a steam loco made slavishly to someone else's design, with an electric loco which has been done from scratch from working drawings and photographs, modifications, trial running. And there is the advantage of arriving on site and driving – no preparation required. The answer, surely, is that we should all do both at some time in our modelling lives. Everyone should have a go with this new fangled electricity at some stage!

By the way, I now have a small 0-4-0 electric chassis for sale – see advert in this issue.

Models and Miniatures.

By John Woods

Three things have prompted my putting fingers to keyboard: one, your editor's comments about electrically powered locos (*The Oily Rag!*, N° 117); two, a gift received by chance, of a large box of bits for a 3½" gauge, Bassett-Lowke, 0-6-0 tank engine; and three, my love of steam plus the joy of "looking". LBSC's well known distinction between locomotive models and miniatures is founded on the core difference between the method of propulsion. Arguably, a model is propelled by any means and a miniature replicates the real thing.

My HO loft activity is manifestly modelling whilst my 3½" gauge Pacific is a miniature - the former is for looking at and the latter is for water, coal and steam. But, the distinction becomes blurred when considering my Gauge 1, spirit - fired and battery - powered locos - no coal or diesel, not a miniature?



A postwar SNCF Chapleon locomotive
HO scale model by the author

At 11 - in 1951 I was allowed on a term doing woodwork and metalwork before being placed in the academic stream forever. In those far - off days there was no question of consultation or choice and so my school life was defined in terms of preparation for university, all of which was very rewarding and enjoyable. However, my love of all things mechanical, especially motor cars and railways had to be satisfied in the early years by passing tools to my father's feet sticking out from under the family motor and following the Ian Allan, trainspotting routes of familiar to many of us of a certain age. Frequent visits to London and the Science Museum gave me the opportunity, in the basement, to press free buttons and watch Walschaerts valve gear rotating on the delightful, glass case miniatures which were so much more impressive than the Hornby Dublo on the dining room table.

Fast forward to 1976. The Head of Engineering at the college at which I lectured was an ex - Ashford, loco man and so my cunning plan to produce a 5" gauge B1 was hatched. He agreed to divide up all the construction work as syllabus project items for the students and I would supply all the castings, drawings and specialist bits and pieces.

All went well for a few years and a rolling chassis and tender were soon looking good. A boiler from Cheddar and a cab from a Tonbridge MES member changing from B1 to S15 made the project really start to take shape.

Then, my great chum reached retirement age in 1982 and the incoming HofD was besotted with computers, CNC and all that. The syllabus changed and steam engines were certainly not on the spreadsheet. It was at this point that my onerous term of metalwork came back to haunt and irritate me to a considerable degree. I knew that I did not have, nor could I acquire the necessary skills and precision to satisfy my hyper-critical eyes in order to complete the B1 and so, after a brief but painful assessment of the situation, I sold the half-finished beauty to a gent in Scotland who would do the necessary.



A spirit-fired suburban tank locomotive
On the author's gauge 1 layout.

chance, once again, to burn my fingers on a
running season.

Fast forward again to
2005 and a chance
building advice visit
by Neville Watts,
Chairman of the
Crowborough
Locomotive Society
who spotted my G1
layout in the back
garden and
questioned my non-
presence at the CLS.
The answer was my
joining a day
later becoming
Secretary and the
weekly basis during the

Now for the box of bits. A colleague from many years earlier had remembered our staff room conversations about steam. At the school, where he had taught engineering for many years he began a student project in the 1960s to build a Bassett-Lowke 0-6-0 tank engine at 3½" gauge. The project stalled after very little work had been completed. In December 2012, having decided to emigrate to be nearer to his grandchildren he was clearing out his garage and wondered what to do with the barely started Bassett-Lowke materials and castings. He made me an offer which, of course, I couldn't refuse. Given my lack of engineering abilities and our Society members having projects and locos of their own to work on, it looked as if eBay was threatening a sensible and profitable solution. But then I had a different thought. I love "looking" as well as driving and so I asked myself a defining question: why not build the loco as a battery powered, radio controlled item with a few wagon such that in my advancing years I can sit and fiddle with control knobs and joysticks, watching HO in the loft, G1 in the garden and 3½" at the club track whilst still getting burnt fingers for as long as possible. Apart from this, I have an incurable tendency to preserve things from the past when there is a manifest need for restoration or completion.



The new loco from the rear

The foregoing is really background to set the scene for a sort of apology for not building a live steamer. With little or no engineering skills but a lifetime of model making, kit building and modifying in g, I reasoned that I could just conceivably scale up my OO, HO and G1 fiddling to produce the superstructure for the B-L

loco. With invaluable assistance from our most experienced, Society model engineer who has machined the coupling and connecting rods, the wheels, axle boxes and horns, I have cobbled together the main frames, made some buffer beams and set about the superstructure - the latter in styrene sheet - and a boiler barrel from a piece of waste pipe which is just the perfect diameter and fell off one of Neville's son's lorries.



Battery electric in front live steam behind

Not yet finished at the time of writing and still a lot of cosmetic work to do, it is giving me many hours of rewarding and challenging work, most of which is out of the head since I know of no others similar 3½" gauge, battery powered loco. Work and wheel gear box came from "HPC Gears", 12v motor from "Cornwall Models", and R/C equipment adapted from G1 locos already in my possession - plenty of room for all this inside the "boiler" barrel. The running has been around our Crowborough track without any serious hitches and so I am cautiously optimistic that there will be something worth watching. It remains to be seen what, if anything, this does for you editors "mixed feelings about battery electric locomotives".

To end where I began, with LBSC's distinction. Perhaps this project could be seen as a model of miniature; battery powered but radio controlled and, therefore, something to watch rather than something to haul passengers. The image of a miniature with large human size certainly a visual blot on the track but miniatures are about doing whereas models are about "looking".

Machinery in my Life

by Ray Rolt

On the 'Rack'

No, not the 'medieval' kind, I mean the 'mountain railway' kind! During the school holidays in the summer, we regularly spent time in Wales. Normally we would stay a night at Aberystwyth and go on the 'Vale of Rheidol' line, then run by British Railways, then go further north for the Talyllyn, Festiniog and Snowdon Mountain Railways. The Snowdon one had a special appeal to me, not just for its unusual method of operation but because it was still performing its original function as a commercial line rather than being a 'preserved' line, much as I supported this 'movement'.

In the early '90's, we made several visits to Austria. Initially, this was to see the 'Zillertalbahn' narrow gauge railway, the source of rolling stock for the Welshpool and Llanfair Light Railway. We booked into a hotel in Mayrhofen and travelled on the line to Jenbach. This was the junction for the mainline. There we saw that there was another narrow gauge line on the other side of the mainline. This was the 'Achensee' rack railway, which I had heard about but did not realise was in the same area. The following day, we returned to Jenbach to travel on this line.

The 'Achenseebahn' is the oldest rack railway in Europe and uses the simple Rigenbach "ladder" rack system. Built in 1889, it connects Jenbach with the Achensee, a large lake only 6 km away but 400 m higher, in a side valley. Because only the first section of the line requires the use of the rack system on an average gradient of 1 in 7.7 (13%), the steam locomotives used are of the rack/adhesion type with geared drive to a jackshaft, with coupling rod drive to

the two axles, with the rack pinions located on the axle centres. The locos are of the 0-4-0T type.

The method of operation is for the locomotive to propel two long wheelbase 4-wheeled coaches up the rack section. Then the loco is attached to the front of the coaches and hauls them to the lake, using adhesion only. To return, the loco is attached to the rear of the coaches, but after hauling them back to the rack section it remains at the front for the descent to Jenbach. A fascinating line well worth seeing. A few years ago, there was a major fire in the engine shed which destroyed one of the locos, but I believe it is still 100% steam worked and a replacement loco is being built using parts of the original one.

At about this time, it was reported that SLM of Switzerland were designing a new geared rack steam locomotive with Roger Waller being the engineer responsible for this. Being one of a group of 'international' engineers trying to promote the steam locomotive in an updated form, working for SLM he focused on the rack locomotive. Market research indicated that several rack railways in Austria/Switzerland could be interested in a new replacement for their ageing fleet, despite some attempts at diesel replacement. As SLM had supplied most of the rack locos worldwide, a potential 'market' existed.

The design 'criteria' to make it competitive with diesel alternatives was rationalised: -

- (1) One man operation.
- (2) Available at short notice.
- (3) Ability to handle more passengers.
- (4) Use of equivalent fuel with similar efficiency.
- (5) Reduced maintenance.

To his credit, Roger Waller has been able to achieve all of these.

‘Oneman’ operation is possible by using light fuel oil, readily controlled by the driver, with a similar fuel consumption due to reduced heat losses, superheating, greater efficiency due to the gear drive and with improved pollution emission due to external combustion. Number of passengers, using two light weight coaches, increased from 60 to over 100 at 12 km/hr, instead of 7 km/hr, compared to original steam locos. All welded steel boiler to reduce weight and maintenance and improved mechanical lubrication to reduce preparation. By using electric water heater overnight coupled to boiler, pressure in boiler maintained to allow instant operation of burners for rapid recovery of full boiler pressure and reduce stresses in boiler. An added factor is the tourist appeal of steam, even in its modern form.

Knowing that one of the first locomotives was going to the “Schafbergbahn” in Austria, a return visit to Austria, this time to St Wolfgang, was booked the following year! Thank to the lovely scenery and walking, my wife and daughter were happy to return! A bonus when visiting railways!! When we arrived at St Wolfgang, a disappointment! The new locomotive had been shipped to the other rack railway, the “Schneebergbahn”, near Vienna, for evaluation tests against their diesel units, and would finally arrive about three weeks too late for us!

Though a disappointment, the sight of the existing steam locomotives at work was like watching ‘mechanical dinosaurs’! Their original chimney had been replaced by a ‘Giesl Ejector’,



The old locomotive at St. Wolfgang

Developed by Dr. Giesl Geislingen an Austrian engineer. This was extensively fitted to the remaining steam locomotives in Austria and to some locomotives worldwide. It was a very effective design of blast pipe off flat 'fan' shaped appearance, giving improved vacuum in the smokebox with reduced back pressure. This gave increased power and a reduction in fuel consumption. In this country, in addition to fitting to numerous industrial locos, it was also fitted to a 9F2 -10-0 and an 'original' Bulleid Pacific "Spitfire", to enable an improved 'spark arrester' to be fitted without detriment to the drafting. Mike Johns was involved in the fitting of this "Spitfire" and confirms that it was very effective, giving improved performance and fuel economy, resulting in a recommendation that it be fitted to the remaining 'original' Pacifics as the costs could be recovered by fuel savings in two years. This was not acted upon, but when the owners of "City of Wells", another 'original' Pacific, preserved on the Worth Valley Line, did so. It produced 'legendary' performances on the "mainline" until its protracted overhaul, now completed.



The cleaner lines of the modern loco.

Fitted on the 'Schafberg', it enabled the fitting of a 'spark arrester' in view of the extensive forest below the 'tree line'. This is hinged back onto the side of the chimney on the descent.

The following year, we made a third visit to Austria!! This time success and we were able to see the new locomotive in action.

It has a very clean traditional outline and is fitted with a mock 'Kobel' spark arrester chimney, apparently at the request of the drivers, to act as a 'silencer' due to the exhaust noise of the high velocity exhaust!

Unfortunately no 'hands on' experience here, as with the traction engines! I had to settle for general observations. Sitting in the bottom of the rear coach, facing the front of the loco, I was able to make observations of the entire ascent. Through the entire ascent, there was a faint 'wisp' of steam at the safety valve, indicating the ideal conditions of full boiler pressure without loss of water and fuel, except for one brief lifting of the safety valve, presumably to test the operating pressure. This demonstrated the fine burner control.

Using observation of the position of the 'die block' in the expansion link as a very crude guide to the 'cut-off' being used, it appeared to be about 20 - 25% on the easier sections, lengthened to about 35 - 40% on the steepest gradients. This showed the advantage of the geared drive over the direct drive of the existing locos, as demonstrated with the geared 'Sentinel' locos in this country.

At the lower terminus, the driver connected an extension pipe to the 'blowdown' valve, directed down onto the ground, and operated the valve. Whether this was done on each trip or once a day, I don't know.

Today, the 'Schafberg' is 100% steam operated, using a fleet of these modern locos, with three of the original ones retained for 'heritage' trains, at a 'supplementary' charge. The SLM was sold to another company who were not interested in further steam development, and a new company 'DLM' was set up, with Roger Waller continuing to develop 'modern steam' projects.

Letters to the editor.

Dear Editor

I read your article on a proposed 2 1/2" gauge track addition at Vivary Park. Personally I think this is a good idea if the costs are not too great.

I have owned a 2 1/2" gauge loco - a Fayette - but sold it as I thought there was nowhere to run it locally!

Although I have two 3 1/2" locos both at near complete stage, I would have preferred to be in the smaller gauge - it is easier on the wallet and on the workshop machinery!

John Hilton

Dear Editor

2 1/2" gauge at Vivary Park? In my view Taunton Model Engineers would do well to invest the modest sum required to do this. After all it would be one of expenditure with no great engineering difficulty.

As John points out, we have little factual evidence as to the strength of the growing popularity of this scale/gauge, but without the facilities we really will never know. It can only be to our credit if we help to promote a resurgence of this gauge. Yeovil MESH have long held on to their 2 1/2" rail; recently nine members have started building to this gauge. And two model engineers from deepest Dorset joined simply to make use of the 2 1/2" track.

Yes! Let's do it.

Bill Edmondson

Vivary Park Running Days

October

Sunday 5th	Public Running
Sunday 19th	Public Running

December

Sunday 14th	Public Running
Santa Special	12 noon - 3pm

Working Parties

**On occasion are by advice from Phil Mortimer
If you would like to become involved, then contact him
Details inside the front cover.**

Public running will normally take place between
2.00pm. and 5.00pm. Weather permitting.

Crzech Running Days

October

Sunday 12th	Public Running
Sunday 26th	Public Running

December

Sunday 21st **Public Running**
Santa Special **12 noon - 3pm**

Working Parties.

Meet on site Thursdays and Sundays from 9.30 a.m.

Public running will normally take place between
2.00pm. and 5.00pm. Weather permitting.

Subscriptions

**Ordinary Membership is £30 with a further £5 for spouse or
partner.**

Junior Membership — £5

**Membership Secretary contact details — see inside front cover.
If renewing by post, please enclose S.A.E. for Membership Card**

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The Society is very grateful for their sponsorship.

Meetings Programme

2014

18th November Quiz Night - Dick Whittington
2nd December Narrow Gauge Britain. Peter Triggs
16th December Mince Pies and Natter

2015

6th January "Rudham's Rambles" - Hugh Rudham
20th January Restoration of a Corsair Aircraft - Dave Morris
3rd February Bits and Pieces - Working progress
17th February "Broadcasting to the Nation" - Bob Arlett
3rd March NB "President" (a Canal Boat) - Simon Nuttall
7th April AGM
21st April Trophy Night
5th May Visit Bridport Foundry and Stuart Engines
19th May Visit Newberry Rail
2nd June Visit Stockland Transmitter - Bob Arlett
16th June Visit Isle Abbots Railway
7th July Club Outing - A visit to the Big Pit
21st July A evening at Vivary Park
4th August Barbecue at Creech
3rd November Auction Night
17th November Quiz Night
1st December Slide Show and Talk - Peter Triggs
15th December Mince Pies and Natter

**Meetings are held on Tues day evenings at the Village
Hall, Stoke St. Mary, Taunton, commencing at
7.30pm. unless otherwise indicated**



AndyCookepresentsthechequetotherepresentativeof
Children'sHospiceCareSouthWest,PaulaHullet.



JohnTierney'sStirling8footssinglewhichvisitedCreecheearlier
thisyear.